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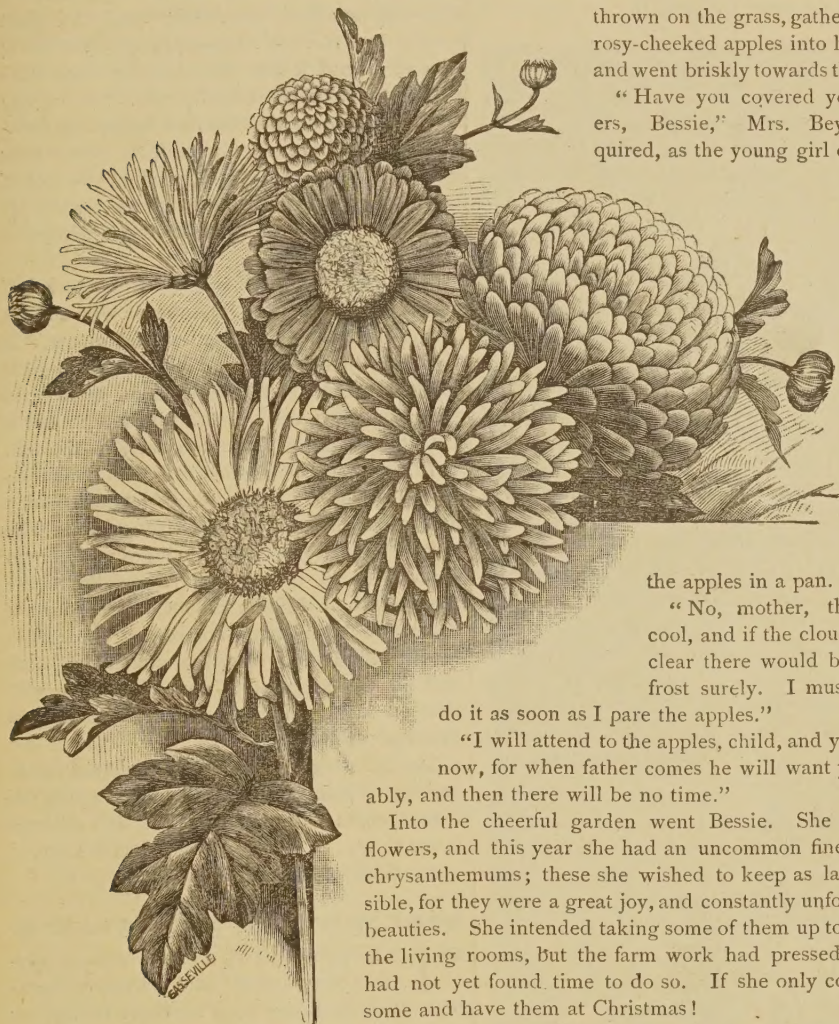
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HOW SHE WON HER WAY.

ROSE SEELYE-MILLER.

THE crimson and gold of the autumn leaves lay in drifting piles about the walks. Bessie Beymer sat under the almost leafless boughs of an old apple tree, wrapped in deep thought. She had so much to think about this autumn day that she hardly noticed the beauty about her. It seemed a little hard to this girl that she must always stay here upon the farm and never know anything, never have the opportunities that so many other girls had without caring for or appreciating them. Still she had too much sterling sense to allow this to make her miserable; but she had planned to go to the high school in an adjoining town the coming winter, and now, from various losses having occurred, she felt that she could not go, although her father had not said so much. He was such a good indulgent father that she loved him beyond all words, but she knew well how much privation her going would cost her parents, and she had resolved fully to give up the idea entirely. After arriving at this conclusion she felt better and picked up her sunbonnet which she had

thrown on the grass, gathered some rosy-cheeked apples into her apron and went briskly towards the house.

"Have you covered your flowers, Bessie," Mrs. Beymer inquired, as the young girl deposited

the apples in a pan.

"No, mother, the air is cool, and if the clouds should clear there would be another frost surely. I must go and

do it as soon as I pare the apples."

"I will attend to the apples, child, and you can go now, for when father comes he will want you probably, and then there will be no time."

Into the cheerful garden went Bessie. She so loved flowers, and this year she had an uncommon fine show of chrysanthemums; these she wished to keep as late as possible, for they were a great joy, and constantly unfolded new beauties. She intended taking some of them up to brighten the living rooms, but the farm work had pressed and she had not yet found time to do so. If she only could save some and have them at Christmas!

"Ay, Bessie, lass, at your flowers again." And Bessie looked up, a glad light in her eyes as she heard her father's salutation. "I'll help you a bit," he added cheerily, "and then we will go in and have a bit of supper."

The last plant carefully covered, they went in the house hand in hand like two school children. At the table her father, who had been to town with vegetables, which he delivered regularly to certain customers, said: "Well, Bessie, you should see Mrs. Arlington's chrysanthemums; they are fine, though some of 'em are not finer than yours, lass. She is going to give a fine party to the gentry tomorrow night, and I am going to take her some of those plump chickens of yours, and you shall have the money all yourself."

Bessie's eyes shone, but she said: "Oh, no, father, we need all we can raise for other things, and I shall not want it you know. I'm not going to town to school this winter." She stopped just in time to keep the lump in her throat from choking her and thus making her disappointment visible.

"Not going to school, eh?" said Mr. Beymer. "We'll see, we'll see. You deserve to go, and

mebbe somethin' will turn up, mebbe somethin' will turn up." Mr. Beymer was of a sanguine temperament and always hoped when things were dark that something would "turn up" as he expressed it. And something did usually turn up, for he was indefatigable, and by his own cheerful exertions made something "turn up" when another man would have given up in despair. The grain had turned out poorly, a good cow died from some unknown cause, and then a colt that he prided himself upon had been kicked by a strange horse and it had never recovered, so, although it was still alive, it was wholly unsalable, and he was almost inclined to think it would be better to have it killed than to be at the expense of keeping it, but Bessie could not bear to have it killed and so it was still spared.

The next day Mr. Beymer returned from town early. "And how did your posies come out last night, Bessie?" he inquired.

"Oh, they are just as nice as can be, and that one we were watching has bloomed and it is such a lovely thing, dark and rich, just about the color of that mahogany bureau of great-grandmother's," replied Bessie enthusiastically.

"Mrs. Arlington's all froze last night; they were in pots but still outdoors. She felt terribly cut up about it because she was going to have her party to-night and calculated to have them flowers, though why something else won't do I don't know."

"I wish she had mine," said Bessie generously. "She's always been good, and she sent me flowers and things when I was sick, though she never saw me. I really wish she had mine."

"If I'd a known you wouldn't mind I would have told her to come out and get 'em."

"Why, father, didn't you know?" said Bessie reproachfully.

"Well, if your heart is set on't you can go in this afternoon and tell her, and she can send her man out to get 'em."

"Oh, father may I, really?" and Bessie danced about in anticipation of the coming trip.

While Bessie was getting ready a stately carriage drove up to the farm house and Mrs. Arlington alighted. Mrs. Beymer wondered inwardly what that lady could want, but she was not left long in doubt.

"You have some fine chrysanthemums," she said, "and I must make my errand known at once. I have arranged for a chrysanthemum supper to-night, and unfortunately all that I had were spoiled last night, as were many others. I knew you had some, and as Mr. Beymer often serves me I thought perhaps you would be willing to dispose of your flowers at a good price." She stopped and looked at Mrs. Beymer interrogatively.

"The flowers are Bessie's, and her father told her you had lost yours, and what a disap-

pointment it was to you, so she wanted to give you hers, you had been so kind when she was sick."

Mrs. Arlington's proud face flushed a little at the mention of her kindness, for she did her good deeds quietly and felt a little embarrassed. "But your daughter has not yet left home?" she asked.

"No, and I will call her. Ah, there she comes now," as a bright-faced girl entered.

Mrs. Arlington made her desire known, and finding that Bessie had just the hues she wanted she took a great quantity of the lovely flowers. Bessie agreed to get her plenty of ferns, and very soon she found herself in the great mansion of the Arlingtons. It was late for the arrangement of the flowers, but Bessie volunteered her services, and soon the great dining room and table were decorated to suit even the taste of the fastidious Mrs. Arlington. Bessie was surprised at the liberal sum this good lady pressed upon her in payment for her flowers and work, for she had done the work with good will, expecting nothing, but Mrs. Arlington had drawn a good deal from the girl about her desires for schooling, etc., and she earnestly wanted to aid her. "Keep your flowers as long as you can," Mrs. Arlington said, "and perhaps I shall be able to send you another customer. It may be you will find a way to go to school yet."

Bessie went home very happy, and you may be sure that her precious flowers were carefully housed before another frost had a chance to nip them. Mrs. Arlington was as good as her word, and in due time Bessie had another call for flowers. She also aided in their arrangement, for her taste was simple, yet exquisite, and gave great satisfaction in comparison to the formal arrangements made by certain so-called decorative artists. The girl purchased a goodly number of bulbs for winter blooming, and although these were potted late they did well, for the bulbs were the best to be had. She ventured to begin school, hoping to be able to meet the necessary expenses. She had quite a little sum to begin with, and a few sales of her potted bulbs when in bloom, and her services in arranging cut flowers and other floral decorations during the holidays, enabled her to spend a very happy and useful winter. Her education, nor her work among the flowers ended there, for she had found something she could do and still be at home during the summer and go on with her schooling. Bessie has grown to be a noble woman, and she blesses the day when Mrs. Arlington first called on her for her precious flowers.

VIRGINIA CREEPER.

ONE of the finest of the hardy vines for an all-purpose-out-of-doors climber, is the *Ampelopsis quinquefolia*, Virginia Creeper, Five-finger, or American Ivy, as it is variously called. The rapidity of its growth, after it becomes fully established, makes it very valuable for covering old buildings, walls, old trees or any unsightly object; or for screens, awnings, trellises, arbors, pillars or any other ornamental work about the lawn, house or garden. It is very hardy and does not winter-kill, growing wild in the woods of Northern Wisconsin, where the mercury sometimes, in fact, frequently, falls to thirty and thirty-five below zero, and will thrive with no protection and but little care. It grows slowly for the first year, but after its roots become fully established it makes

a rapid growth, increasing in beauty and value each year. It does not die down in the autumn, but produces in the spring leaves and new growth from the old vines; thus, as each season's growth is gain, it is not long in covering even large buildings of two or three stories in height.

Each leaf is composed of five leaflets spread almost in a circle. The foliage is dark green,



VIRGINIA CREEPER.

glossy and very ornamental; with the first frost it changes to shades of vivid red. The flowers are much frequented by bees and flies, though honey bees do not seem to notice them much in this locality, they are pale and inconspicuous, borne close to the vine beneath the leaves, and are followed by small clusters of round, nearly black berries about as large as peas. The berries are not edible. Except on the smoothest walls it needs no support. It sends out slender filaments or feelers, not roots, that, whenever reaching any slight irregularity or projection, spread or divide into four or five, like minute fingers, that grasp the projection and thus furnish support.



POISON IVY, RHUS TOXICODENDRON.

Those who love to study or observe the habits of plants will find that they can observe this to great advantage if they will place a wire screen in a window and allow the vine to cover it. They will see that wherever the filaments have touched the screen the tiny fingers have grasped the fine wire and held fast. They can be seen best from the inner side of the screen. A thrifty vine will keep the walls of the house dry by covering them so completely with leaves that the rain does not reach them.

Any dwelling, no matter what its style of architecture, is beautiful if covered with this vine. If doors and windows are to be left uncovered the vine should be trained around them and fastened above and at the sides of the casings, and the ends of the vines turned aside or clipped whenever they attempt to cross the interdicted space. Do not wait until the door or window is partially covered and then attempt to cut the vine away. If there is a dead or broken tree upon your lawn do not cut it down but have the branches removed close to the trunk and plant one or two roots of *Ampelopsis quinquefolia* at the roots and it will soon become a beautiful symmetrical green column, covered so closely with leaves as to hide the foundation completely. If you have a net wire fence about your premises, plant a root of this ivy at the foot of each post and train the vines upon the wire. It will soon be a wall of green and a delight to every beholder.

The vine will bear neglect, but its growth if neglected and starved, will be slower and its leaves smaller and not so dark and glossy. It will grow almost anywhere but delights in good mellow garden soil. It responds quickly to generous treatment. If this vine has a fault it is that it drops its leaves too early in the fall.

It should not be confounded with the three-leaved poison ivy, *Rhus Toxicodendron*, which at a casual glance it somewhat resembles. The three-leaved ivy is a vine and grows freely in many parts of the country, especially in the Northern and Middle States, injuring by its emanations even those who are most susceptible to the poison, but may be handled by some without the slightest injury. This vine will climb to the top of tall trees, and its leaves turn crimson in autumn.

The Five-finger, *Ampelopsis quinquefolia*, is entirely harmless. It should have a sunny situation, which suits it best, but will do well even in the shade.

BETH DAY.

South Kaukauna, Wis.

SOME WINTER WINDOW PLANTS.

"I AM going to have a lovely window garden this winter," said my pretty neighbor. "Uncle James gave me three dollars for my birthday and I shall send for six geraniums, six roses and other pretty things I see in the catalogues."

"O, my dear," said I, "you will be sure to fail with them in your furnace-heated, gas-lighted parlor, and then you will bemoan the money spent on those hothouse darlings. Let me tell you of some that will look beautifully and do well in your large window. A cyperus, or Umbrella Plant, put in a goldfish globe with a few pebbles and sand in the bottom and filled with water, and placed on a swinging bracket will give your window a fine and rare appearance. And to give the room a tropical air, very different from all the other parlors in the block, have the royal palm *Latania* on a small table. This corner is just right for a rubber plant and you will be very much interested in it. Let me whisper, if you want to send a very loving message to Harry you can use one of the smooth leathery leaves and write upon it with a sharp pointed instrument." My pretty neighbor looked intensely interested, and before long I saw the above plants left at her door and she herself carried the rubber tree into the house in her arms.

SISTER GRACIOUS.

THE PARK LAWN.

THE primary object of a city park is to minister to the health and pleasure of those who frequent it. It gives the denizens of the crowded town an opportunity to breathe the pure air and enjoy the renovating sunshine or refreshing shade. In addition to this any public park worthy of the name should aim to give expression to the beauty of the vegetable world.

There is an instinctive desire for the beautiful implanted in every human being. Everywhere eyes are delighted and hearts gladdened by beauty.

A park should be the best possible example of landscape gardening, and the development of the beautiful is the end and aim of the art of landscape gardening, as it is of all other fine arts. The essential elements of all the natural beauty of parks are the *lawn* and *trees*. A smooth, closely cut, velvety surface of grass is by far the most important element of beauty in all pleasure grounds, and it would be a great gain in most of our parks if two-thirds of the poorer trees, shrubs and flower beds were replaced with fresh, green grass.

If grass is the most effective agent in all landscape scenes, then one of the most attractive features of a park are well kept lawns. Without open, wide-spreading lawns here and there in a park, nothing can be produced but a confused effect. We cannot see the individual beauty of tree or shrub in a crowded forest or unthinned plantation.

It is just as impossible to make a really beautiful park without open, extended lawns, as it would be to make a lake without water. Whatever else we may or may not have, the one indispensable element is the soft green turf with which we can drape and cover the swelling outlines of the smiling earth. And yet this principle, both in general design and in the arrangement of detail, is constantly violated in most of our so-called parks.

The good old plan of setting out a tree and making a flower bed wherever there is room for them is usually followed and the result is that our parks are devoid of all picturesque beauty—all fine landscape effect.

The essentials of an ideal or perfect lawn are as follows:

1. A deep, rich soil.
2. Suitable varieties of grass.
3. Intelligent management—including seeding, weeding, rolling, cutting, watering, fertilizing, etc.

The importance of good soil need not be dwelt upon. In the first place if it be low, wet or swampy, it must be underdrained. Drainage is also essential if the surface soil rests upon an impervious subsoil. Light, sandy soils, and those that are clayey and cold, should be enriched or ameliorated by well decomposed stable manure. The soil should be mellowed by repeated cultivation, and all stones, roots and weeds removed. The surface should be made not level, but smooth and even throughout.

In order to make a good lawn there must be a judicious selection of grasses. The following mixture is suitable for this climate:

<i>Poa pratensis</i> { June Grass }	20 pounds
{ Kentucky Blue Grass }	
<i>Agrostus vulgaris</i> —Red Top	20 "
<i>Phleum pratense</i> —Timothy	10 "
<i>Lolium perenne</i> —Rye Grass	10 "
<i>Anthoxanthum odoratum</i> —Sweet Scented	
Vernal Grass	5 "
<i>Trifolium repens</i> —White Clover	5 "

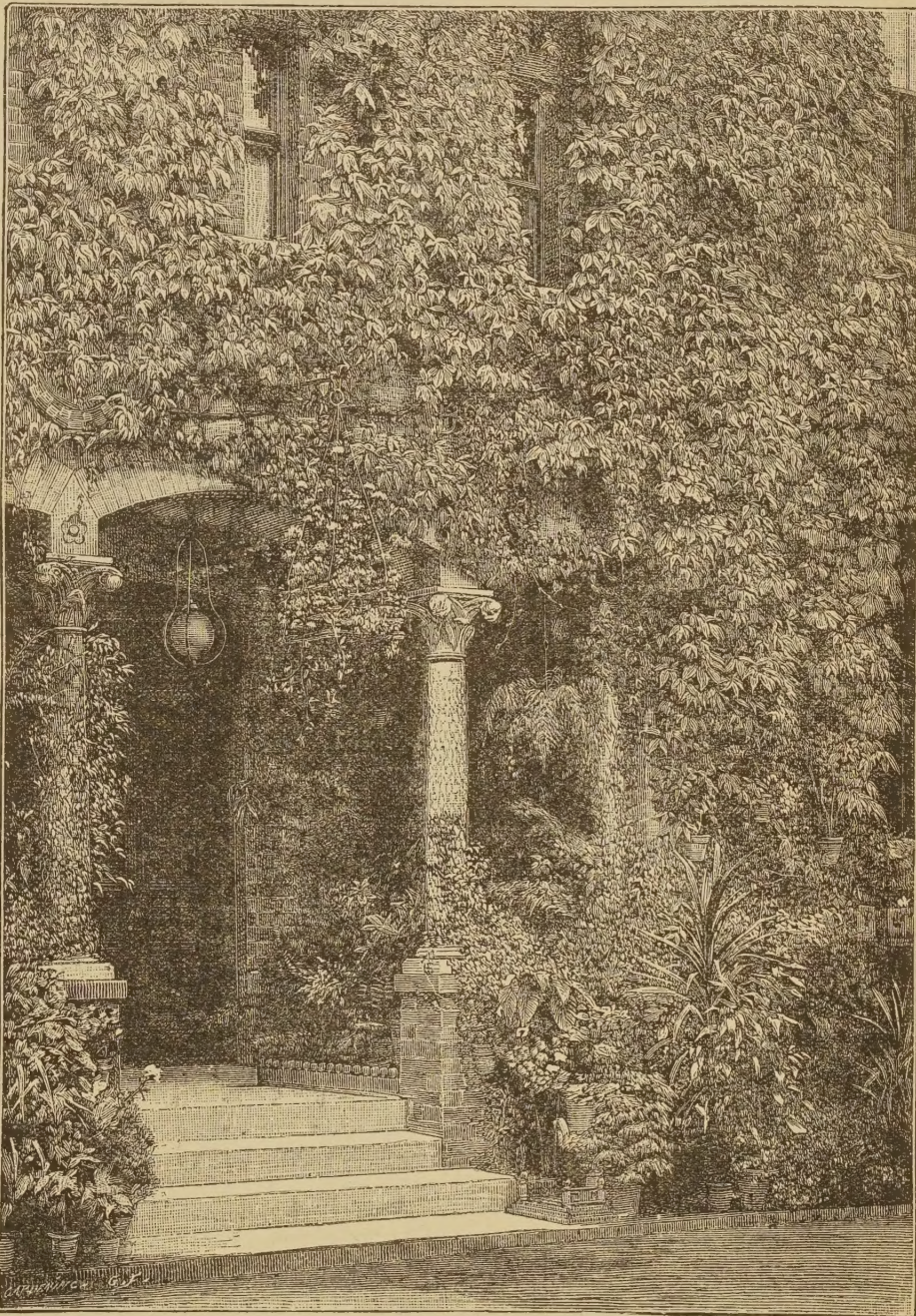
Good lawn grasses should possess the following characteristics:

1. The finest possible leaf growth, with the capability of renewal under constant cutting.
2. The power of intimate weaving, one with another, so as to form a stiff, compact sod.
3. The different varieties should grow with about equal rapidity so as to preserve nearly the same height.

No single invention of modern time has had a more civilizing and refining effect than the lawn mower. By it almost every one is enabled

early spring this would be too frequent, so also in autumn the grass should be permitted to grow longer in order to be the better prepared to withstand the storms and frosts of winter. Wherever possible the clippings of the lawn should be left upon it for a top-dressing.

Besides frequent cutting, every lawn should be carefully looked over two or three times during the season and any weak point corrected and repaired at once. All weeds should be removed before they become firmly established; all poor or impoverished spots should be liber-



VIRGINIA CREEPER ON HOUSE WALL.

to keep the immediate surroundings of the home attractive, if not beautiful.

The keepers of parks and pleasure grounds must derive signal satisfaction from the use of the lawn mower. In our country it is almost impossible to have a perfect lawn by the aid of the scythe. With our modern lawn mowers there is no difficulty in keeping it in excellent form. In order to keep a properly established lawn in a thoroughly responsive and genial condition it should be cut on the average about once a week during the growing season. In

ally top-dressed with fine compost, ashes or some other fertilizer.

The whole lawn, unless on the richest of soil, should receive a dressing of nitrate of soda during the first half of the season, and every two or three years a top-dressing of well decomposed stable manure.

Wherever the grass has been killed or injured in any manner the soil should be thoroughly raked over and a little fresh seed sprinkled upon it. This reseeded should be attended to without fail every spring, if found necessary.—*Extracted from a paper read before the Columbus Horticultural Society by Prof. Wm. R. Lazenby.*

SUMMER IS DEAD.

Summer has gone; we see the signs
Written wherever we look;
The cardinal flower has lighted her lamp
Beside the meadow brook,
Wherever her scarlet flame shone out
"Summer is gone" it said.
O, she was sweet, but her step was fleet,
Yes, Summer is dead.

Summer has gone; at eventide
We list to the crickets cry
Sharp and shrill on the evening air,
Piping, "things sweet must die."
The birds fly south in the short cool days
Cleaving the air o'erhead.
Yes, she was sweet, but her step was fleet,
And Summer is dead.

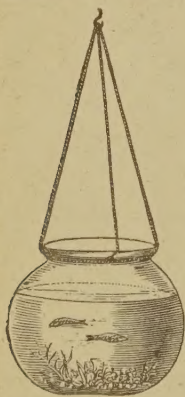
Summer has gone—the bees fly far
Seeking in vain for flowers.
But they add no more to the precious store
Laid by in summer hours.
The thistle has sent her seeds adrift
With their feathery sails all spread,
Wherever they float with their tiny boat
They say that Summer is dead.

"Summer has gone" is still the refrain
From meadow and wood and hill,
Like a song that is sung, or a tale that is told.
She vanished, but haunts us still,
Like a wonderful dream we cannot recall,
Like passionate music, I said.
O, she was sweet, but her step was fleet,
And Summer is dead.

—SARAH A. GIBBS.

THE CARE OF AN AQUARIUM.

THERE is no prettier ornament for the sitting room or parlor than a well kept aquarium. The bright hues of the gold fish as they dart through the crystal water; the soft feathery green of the floating water moss, and the arching cyperus or stately calla growing out of the water and overshadowing the tiny pool below like a miniature tree of some fairy landscape, give a touch of picturesqueness to the most commonplace room. But beauty is not the aquarium's



only merit. By the moisture constantly evaporated from its surface, the stuffy dry air of the sitting room is so much ameliorated that pianos keep in better tune, window plants grow thriftier, and the air made easier for human lungs to breathe. When we remember that gold fish are the easiest cared for of any household pet, it seems strange that we do not more often see them, but probably the cost of the aquarium itself is the true explanation.

The most common form of aquaria are footed glass globes, and they usually cost from two dollars to five dollars each. This shape is not only the easiest broken, from its having no protective framework about it, but its narrow opening at the top allows but little surface evaporation. An octagonal or oblong tank is much better, as the air surface is so much greater, and they are besides more ornamental and less easily broken. Very fine glass and iron aquaria can be purchased at prices ranging from five dollars to twenty-five dollars in these shapes. An ingenious person can make one at home that will answer every purpose and the cost will be very little. The sides, of course, should be of glass set in a wooden or tin framework, and the bottom should be lined with zinc or tin. The tin should be painted to prevent rust, and every

crack needs to be puttied to prevent the water from leaking through. If only one or two fish are kept a large candy jar is a convenient thing to keep them in. It is best to allow at least half a gallon of water to each fish if one would avoid having to change the water each day.

Though taking it in small quantities, fish require oxygen the same as ourselves. Where several fish are confined in one aquarium the supply of oxygen in the water is soon exhausted unless the supply is kept up or renewed in some way. This is usually accomplished by growing water plants in the same aquarium with the fish. The plants take up the poisonous carbonic acid gas given off by the fish and give out oxygen, thus constantly purifying and aerating the water. There is great difference in plants as to their power to aerate the water. Cyperus, calla, etc., while very ornamental, are of little service in this respect. The most useful plants are probably the myriophyllums, or water milfoils, of which the well known water moss is one species, and the much advertised water parrot another. The water milfoils are really very beautiful with their plummy feathery foliage, and grow



so fast that in spite of the incessant nibbling of the fish they need to be thinned out now and then. A two-inch pot will hold soil enough for a tank full of these plants.

The green slime that is apt to collect on the sides of the glass is due to minute algæ, or water weeds. It affords food to the fish and helps to supply oxygen to the water, but presents so unsightly an appearance that it should never be allowed to remain where it is at all noticeable. Where there is a proper balance between fish and plant life the water will not need changing for a long time, but the sediment and particles of dirt will need to be taken out twice a week by the use of siphon or the water will become clouded and dirty looking. It is a simple matter to remove this sediment. One only needs three or four feet of rubber half-inch tubing, costing four or five cents a foot. Drop one end of the siphon or tubing in the aquarium and allow the other end to reach to a bucket standing somewhat lower than the aquarium; exhaust the air in the tube by applying the lips to the lower end of the siphon, the water will follow with a rush and as long as that end is kept the lowest the water will flow uninterruptedly from the tank above. The end of the tubing in the aquarium can be guided directly over the spot where the filth is collected together when the suction will cause every speck and particle to be drawn up in the tube and discharged at the other end. It will take but a moment to do this and the water will be left limpid and pure.

When the water becomes full of foul gases, or the oxygen is exhausted, the fish come to the top of the water, sucking audibly the whole time as though gasping for breath. Fresh water should be given when this is observed or the fish may die. The most frequent cause, by far, of impure water, is caused by overfeeding the

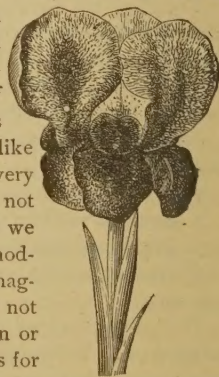
fish. Contrary to the common notion, gold fish are very dainty feeders, and if much food is given them they allow it to remain in the water where it speedily decays. Never feed the fish more than they will eat at once, and never feed but once a day. Cracker crumbs one day, bits of scraped meat another, corn bread, light bread, boiled rice, etc., are all good food for gold fish, and as much food as can be picked up between the thumb and forefinger is all six fish should have in one day.

Gold fish are very hardy, and have gone through the trying ordeal of being frozen up in a cake of ice at night and thawed out again the next day without apparent injury, but to change them suddenly from tolerably warm to ice cold water, or *vice versa*, will make them very sick, and ought never to be done. In summer they need shade from the hottest sun. In winter their colors are brighter and the fish healthier if they have some sun each day. If the water is kept clean and the fish not overfed they rarely get sick, and their flashing, sparkling, changing beauty, as they glide hither and thither through the green meshes of the water moss, is a joy of which one never tires. L. S. LA MANCE.

IRIS SUSIANA.

IN that wonderful combination of form and coloring of the rare sweet flower we call the iris (eye of heaven) there is none so peculiarly beautiful as *Susiana*. It stands out in its own right as the grandest of all species, and without compare. But let me tell my tale.

For years we have been collecting iris and one bed after another has been added to the already well stocked garden as time, money and space permitted. Each species has its own bed and our garden is made gorgeous with their blossoming from April until late in July. Now it so happened that there came into the one bed a stray, for it had neither brother nor sister of its kind and was not like any other, for it was small, low and dwarfish as to stock and had an enterprising way of remaining green most of the winter, thrusting its sturdy little leaves like green spikes out of the very snow itself. We did not think much of it, for, as we have said, it grew but modestly among its more magnificent neighbors, and not blossoming for a season or two we cared still less for it. But it bore within its



IRIS SUSIANA MAJOR. reticent little breast a mighty secret, and while we watched daily the Japanese iris, in whose bed it was, for a promise of bud upon some rare new varieties whose tall stately stalks were the admiration of our flower-loving soul, behold! one day in the low, little, green clump at our very feet arose a possibility that grew greater each day we beheld it. Five great buds, on as many slender little stems, grew until they were fain to cover the whole parent plant by their open greatness, so large they were. It is almost impossible to describe their oddness and their magnificent beauty. The flowers were so dark that at first sight they seemed quite black, in shape somewhat like the German iris, but each upright and lower petal of enormous size. The groundwork of the flower must have been

of a silvery gray, but so mottled and veined and lined with dark chocolate and black as to leave one under the impression that it was only a silver lining showing through. No description can possibly do it justice. It must be seen to be appreciated. Our flowers were shown to many and they will never forget the sight of the grand beauties or the quiet little plant that grew them. It is decidedly king of the iris. Perfectly hardy, and of a price within reach of all, it should delight every soul who loves these orchid-like flowers, whose beauty is so undeniable. It needs no especial care, a few leaves drifted about it in the fall, a rather warm sunny spot that will tempt it into blooming early, and that is all. Try it. H. K.

RAISING AURATUM LILIES.

The following experience in raising auratum lilies given by Mr. Stratton of Petaluma, California, in the *Pacific Rural Press*, may prove interesting to our readers, and especially to those who have failed in raising these beautiful flowers. At the North and East where heavy freezing occurs in winter it will be necessary to cover the ground where the bulbs are buried with a thick coating of dried leaves, fern tops or evergreen branches. Here follow the statements of Mr. Stratton:

"*Lilium auratum* is usually dug in Japan before being fully ripe. Exposure to the air invites the attack of a minute fungus of a reddish rust color, that does not injure them in their native soil, but in soils that have but a slight degree of alkali in their composition this fungus develops and usually destroys the bulb the second year; indeed, often the first season, and as the bulbs were not fully ripe when dug their vitality is impaired and their susceptibility to succumb to the disease increased.

When planting we always encase the bulb with a liberal amount of common moss, so plentiful on rocks, the heavier the covering the better, placing the moss side next to the bulbs, and tying it securely, taking the precaution to leave a very small opening on the top of the bulb where the stem may easily grow out. We plant them not exceeding four inches deep in well drained sandy loam. When the flower stalk is well developed we mulch liberally with dry forest leaves—to protect from heat, and to retain moisture.

In preparing the ground for our lilies we dig out a hole nearly twenty inches deep, and therein we put two shovels full of well rotted cow manure, and over this we place about one foot of loam, and we often mix in through this loam moss, similar to that we have encased the bulb in—then when placing the moss-covered bulb in position we use a still greater proportion of the moss mixture. They will grow in this with the greatest vigor, and increase very rapidly till the moss is decayed, so that the soil comes in contact with them, when they must be dug and replanted as before. For our own use we nearly always take refuse bulbs cankered and wilted so that they appear worthless—but just take these apparently worthless bulbs and pack them in damp moss, place them in a cool place for two weeks, then inspect them.

Accidentally we discovered this way to grow auratum by first using large tubs, using a rich camellia loam and moss, and mixing very freely the refuse of the packing table. The bulbs were thrown away because we considered them

worthless. Imagine our surprise to see growing auratum lilies fully six feet high, with flowers of regal proportions! We still use these tubs for some worthless bulbs, for very late planting after the selling season is past, and we frequently have them in flower as late as November 1st. Growing from seed is too slow. When we have the time we plant the scales that are knocked off in handling and digging, planting them in mossy loam, in the shade, not more than one and one-half inches deep, allowing them to remain till the third year, when we have from

giving the appearance of a great double flower. Well grown specimens of it are very fine, but many persons of good taste will still prefer what are called the single forms, such as shown in the accompanying illustration. The plants are easily raised, produce a great many flowers, continue in bloom a long time and make a good display in beds and borders, and the flowers cut with long stems make a fine show loosely arranged in vases with other blooms of harmonious colors. The plants are easily produced from seed sown early in spring, and set out after



GAILLARDIA PICTA.

them quantities of small flowering bulbs. Our methods may not prove successful in the East, but as nothing succeeds like success it might be worthy of a trial."

THE GAILLARDIA.

THE varieties of the Painted Gaillardia, *G. picta*, are very desirable low-growing annuals. The petals, as the outer or ray flowers are called, are large, spreading and handsomely colored red and yellow or red and orange, the deeper color being next the base. There are several varieties, all of different markings and all handsome. A few years since the variety *Lorenziana* was brought out in which pretty tubular flowers occupy nearly the whole head,

the frosts have passed. Plants particularly desirable in habit or color of the flowers which one may desire to multiply can be propagated by cuttings. However, the seedlings are so fine and varied that propagation is almost entirely by seeds.

JAMESTOWN WEED.—The hog cholera which prevails more or less every year in some sections of the country appears to have an antidote in the common Jimson or Jamestown Weed, *Datura stramonium*, if the following accounts taken from the *Scranton* (Kansas) *Gazette* can be relied upon:

"A farmer, living not far from Scranton, has never been troubled with hog cholera, though in the past his neighbors have suffered greatly from the scourge. He attributes his good fortune to the fact that the common Jamestown Weed abounds in his hog lot. A neighbor, who had lost almost yearly some of his best hogs from cholera, some years ago planted the weed in his hog lot where it thrives luxuriantly, since which time his hogs have been healthy."

THE ALOCASIAS.

THE several species and varieties of *Alocasia* form a genus of plants which in cultivation require stove or warm greenhouse treatment. They belong to the natural order Araceæ in common with the calla, the *Richardia*, the arums, etc. They are plants of great beauty, valuable for show or decorative purposes, and a few of the best varieties should be found in all collections where choice and rare plants are grown, and as small plants can be procured at very moderate prices they can then be grown on into good specimens with but little care or attention, and they deserve all that can be said in their praise.

To grow these noble plants well they should be given a soil composed of two-thirds decayed turfy loam, one-third well decomposed manure and a good sprinkling of bone dust; mix well and use the compost rough. In potting use porous or soft baked pots, let them be proportionate to the size of the plants and see to it that they are properly drained.

During the season of growth the plants should be given an abundant supply of water, both overhead and at the roots. They should also be given as warm and moist a situation as possible, and if they are growing under glass it should be slightly shaded, and the plants shifted on as often as they require it until they attain the desired size. It is also well to keep them close to the glass in order to insure a stocky growth. Their period of growth is from April to September, and during that time they can not be kept too warm or moist.

During the winter season, or from October to April, they do not grow so freely and then an average temperature of sixty degrees will answer very well. Water should also then be more sparingly given.

In April they should be removed from their pots, the ball of earth reduced and be repotted, using small pots, and afterwards be treated as above advised.

The *Alocasias* are often used for planting in the mixed border during summer, and in many cases with quite unsatisfactory results. I never had the opportunity to try all the varieties of the present day in the open air, but I do not doubt all would produce very satisfactory results when given the following treatment: Plant outside as soon as the weather becomes warm and settled, which in this vicinity is about the middle of May, giving them a very deep, well enriched soil, and a situation that is well sheltered from high winds. As soon as hot, dry weather sets in form a basin around the plants about two inches in depth and fill with stable manure, and whenever the opportunity offers water copiously. When the foliage has been destroyed by the frost the plants should be very carefully lifted, all injured foliage cut off and then be potted, using small pots, and then be stored underneath the greenhouse stage or some similar situation, giving only enough water to prevent them from becoming absolutely dry. They should be started into growth at least a month before they are planted out.

Propagation is effected by a careful division of the older plants, the operation being performed just before growth commences in April, and the young plants thus obtained will be ready for outside use by the end of May.

The following is a descriptive list of the most desirable varieties and all can be procured at

moderate prices of any of our principal dealers in new and rare plants.

A. gigantea, the gigantic *Alocasia*, is a native of the Indian Islands and in cultivation attains a height of from four to six feet. It is a highly ornamental and very attractive plant with large sagittate leaves spreading out at the upper part and having on both sides a rich metallic luster.

A. hybrida is an exceedingly beautiful hybrid introduced by Messrs. Veitch & Son. It is of free growth with exceedingly beautiful foliage of a rich metallic hue.

A. illustris is a native of India. This is a very beautiful plant, the bright green leaves being heavily blotched with purplish black. When in a state of growth it requires plenty of water, and when planted outside should be placed in a very damp, shaded situation.

A. Jenningsii has leaves of a very delicate green, over which, between the principal veins, are laid heavy blotches of black which are remarkably precise in outline and arrangement.

A. macrorhiza variegata is a variety of strong robust growth with large, bright green leaves broadly splashed and mottled with white, some leaves being nearly all white. Its easy growth combined with the rich variegation makes it a very beautiful and showy object. It succeeds well when grown in the open air.

A. Sanderiana is a very handsome variety from the Eastern Archipelago. By some it is considered to be one of the most beautiful of all the *Alocasias* and one of the finest stove plants. It has erect petioles which are brownish green and striately mottled; on the young leaves the color is bright glossy green, and on the older the surface has a metallic blue reflection. The leaf blade is arrow-shaped, with three triangular lobes on each side the basal portion and one or two smaller lobes. The stout cross veins are white, conspicuously bordered with ivory white, the margin also being white.

A. Thibautiana is an introduction from Borneo. It has deep olive grayish green leaves and grayish white midrib with numerous veinlets branching from it. A novelty of sterling merit.

A. violacea has bronzy copper colored leaves with purple petioles; a very striking and distinct species, and well adapted for open air culture, as it does well when fully exposed.

A. zebrina is a native of the Philippine Islands, and is a fine, bold growing species, attaining a height of four or five feet. Its leaves are broadly sagittate in form, and of a dark green color. The foot stalks are of pale green mottled and striped with zigzag bands of dark green.

CHAS. E. PARNELL.

Floral Park, N. Y.

WINTER PROTECTION OF PLANTS.

PLANTS which are tender and require to be stored away in cold pits need more care for the first month than at any other time through the winter season. Many of them, particularly if they have been kept in good growing condition through the summer and early fall, will have unripened shoots and tender young foliage; unless these be cut off decay and gangrene commit sad havoc among them. Air should be given at every opportunity and nothing omitted that will in any way tend to harden the plants and send vegetation to rest. No more water should be given than just suffi-

cient to prevent withering, and the temperature should be kept as near 40° as possible, and every means employed to render the air about the plants dry. Leaving the pit uncovered on cool nights when there is no frost will tend to harden the plants and help them to sustain the cold of winter. Plants so hardened have firm wood containing a minimum amount of moisture, and may stay covered up for weeks and suffer little or no injury.

Of course pits managed this way are for preserving plants alive and keeping them in good condition to pot and bed out for blooming as the warm season approaches. Conservatories for blooming plants are very differently managed, and as the end desired is different, so the means employed must be of a different nature. More anon in regard to conservatories which are managed with a view to economy, and also to the winter protection of half hardy flowering shrubs standing out all the year round.

Lexington, Miss. MRS. G. T. DRENNAN.



A Racking Cough

Cured by **Ayer's Cherry Pectoral**. Mrs. P. D. HALL, 217 Genesee St., Lockport, N. Y., says:

"Over thirty years ago, I remember hearing my father describe the wonderful curative effects of **Ayer's Cherry Pectoral**. During a recent attack of La Grippe, which assumed the form of a **catarrh, soreness of the lungs**, accompanied by an aggravating cough, I used various remedies and prescriptions. While some of these medicines partially alleviated the coughing during the day, none of them afforded me any relief from that spasmodic action of the lungs which would seize me the moment I attempted to lie down at night. After ten or twelve such nights, I was

Nearly in Despair,

and had about decided to sit up all night in my easy chair, and procure what sleep I could in that way. It then occurred to me that I had a bottle of **Ayer's Cherry Pectoral**. I took a spoonful of this preparation in a little water, and was able to lie down without coughing. In a few moments I fell asleep, and awoke in the morning **greatly refreshed** and feeling much better. I took a teaspoonful of the Pectoral every night for a week, then gradually decreased the dose, and in two weeks my cough was cured." *

Ayer's Cherry Pectoral

Prepared by Dr. J. C. Ayer & Co., Lowell, Mass.

Prompt to act, sure to cure

THE BERMUDA LILY.

FROM the recently issued manual on "Bulbs and Tuberous-Rooted Plants," by C. L. Allen, elsewhere noted in these pages, we take the following account and instructions in regard to the Bermuda lilies, which are now so frequently raised for their white flowers in winter.

"These bulbs are almost exclusively grown for forcing purposes on the Island of Bermuda, where they perfect their growth early in July. This fact is important, as bulbs matured at that time will perfect their flowers in the greenhouse fully two months earlier than those grown at the North, where they do not ripen until October. The methods of cultivating this, the most showy of lilies for Easter decoration, are variable, each florist having a plan of his own; or, at least, in visiting many of the largest growers, we hear very different opinions expressed, in regard to the size of the bulb to be grown, for the greatest profit, the temperature required to bring them forward to the best advantage, and whether they are best grown in pots or on benches.

We find the better plan is to pot the bulbs as soon as received from Bermuda, and that a careful selection of sizes is a matter of great importance. It was, for some years, thought that the larger the bulbs the greater would be the chances of success in their flowering; but now the smaller sizes are more generally used. It is found that well matured bulbs, of from three to five inches in circumference, well grown in a five-inch pot, will give from one to three flowers each, and that the small bulbs will produce their flowers in a much shorter time than the largest sized ones. As the flower stems are cut, for decorative purposes, close to the pot, as soon as two or three flowers are opened, the plant from the small bulb will bring very nearly as much as the other, which costs three times as much at the start, and as much more to grow. The plant sells for a given price per flower, and, as there are not usually more than three open at a time, the unopened buds are of no value. The profits of a grower depend largely upon how much he can cut, or grow, on a given space, and in growing lilies he finds he can get double the number of stalks from a bench planted with small bulbs, from what he could if planted with the largest ones, consequently they are far the more profitable.

There is another important consideration in the use of small bulbs, viz., the time in which they can be brought into flower. One florist, last season, cut his first flowers at "Thanksgiving," and they came on rapidly thereafter. At this season flowers for decorative purposes are in good demand, consequently they bring satisfactory prices. As Christmas is one of the best seasons for the sale of these flowers, it is an object to get them in at that time, and the small bulbs are the only ones that can be depended upon to furnish them.

When the bulbs are shipped from Bermuda they are in separate grades, as from three to five, and up to from nine to twelve inches in circumference. Each of these grades should be made into two classes, the larger and smaller to be potted separately; for instance, those between four and five inches should be put in six inch pots, those from three to four inches will do well in five-inch pots. The larger sizes will require large pots, but, except for large plants for exhibition or decorative purposes, an eight-inch pot is sufficiently large for any of the bulbs. There is a peculiarity about this bulb not common to any other. Each seems to have a time of its own to develop its flowers. In bringing forward a hundred pots, where the bulbs were carefully selected as to size, and all given the same treatment, there will be a marked difference in their time of coming into flower. For this reason, the practice of growing them in boxes or planting them out on the benches, was abandoned, there being a great loss in room to await the flowering of the late ones, after the main crop had been cut. When planted singly,

in pots, they can be removed as soon as the stems are cut, and their places filled by others to keep up a succession.

In potting, soils of various character are used, not as a matter of choice, but of necessity; the location of the florist must decide that matter, as he is limited in his choice. However, they will succeed in any good potting soil, all other conditions being favorable. In potting, do not press the bulb down so as to have the soil beneath it hard, as the roots will not penetrate it freely, and do not have the bulb more than half an inch below the rim of the pot. Plunge the pots in coal ashes in a cold frame, and cover them with the same to the depth of one or two inches, and over this a light covering of leaves or fine hay, to prevent evaporation, and to keep the bulbs moist and cool. They should be kept perfectly dark, and away from the air, which would have a tendency to stimulate leaf growth, which is undesirable until the bulbs have had ample time to make root growth, after their natural and desired rest, before the stem starts, which is one of the most important considerations in bulb culture.

For early flowers the pots can be brought into the greenhouse by the middle of September, or as soon as active growth has commenced, but never before the plant has made a growth of, at least, an inch above the pot. At this stage growth must be encouraged and steadily maintained, a check is to them a serious matter, which will be plainly shown by blight, some insect enemy and the absence of flowers. For a healthful, vigorous growth, a free circulation of air, even temperature and great care in watering, are rules that must be strictly observed. They do not require a high temperature, neither will they submit to a low one. For general cultivation in the greenhouse, a temperature of from 70° to 80° by day, and from 60° to 70° by night, will produce the best results. But to be sure of a crop of flowers for Christmas, a temperature of at least 5° higher should be maintained after the first four weeks.

For decorative purposes, where large specimen plants are desired, the largest bulbs should be planted, and if they have two or more divisions, all the better, as a number of stems with three or four flowers each is a more showy object than a single one can possibly be. For this purpose it does not do to put several bulbs in the same pot, because of the uncertainty of their coming into flower at the same time. Specimen plants will not bear crowding; they must have plenty of room for a free circulation of air around them, and a lower temperature given them. To be strong they must be grown slowly; too much heat and little air will make a spindling plant, that will not unfrequently drop its buds. When grown slowly the flowers will have more substance, they will be larger, and there will be a larger number open at one time, and will be more enduring, which greatly enhances their value.

Lilies for Easter.—The same rules should be observed in forcing flowers for Easter; the larger bulbs should be potted for this purpose, using eight-inch pots. Should the plants make a very vigorous growth, seemingly too large for the pot, do not make a shift under any circumstances, but supply the additional food required by liquid cow manure, which should be used liberally twice a week.

The Use of Bulbs After Forcing.—After the bulbs are done flowering, water should be withheld for about ten days; they should then be placed in a cold frame, or sheltered spot, the balls packed close together, with sufficient soil thrown over them to fill up the interstices; then cover with three or four inches of dry leaves, and if in midwinter, they must be covered with sash; if in spring, the covering of leaves alone will be sufficient to protect against frost. The bulbs so treated will flower freely again in August in the open ground, but would not do as well to force for the succeeding winter, if wanted for that purpose, and would require another year's growth to be in proper condition; for

that reason it is the most economical plan to use the Bermuda grown bulbs, which have been specially prepared for winter forcing. The common practice is to throw the bulbs away, but they can be grown for summer flowers, if wanted."

OCTOBER IN THE GARDEN.

BESIDES bulb planting and potting there is a great amount of other work to be done this month. New lawns can be made and seeded, hardy perennial plants can be moved and transplanted, hardy shrubs and trees and roses can be planted. Seed beds can be prepared for early planting in spring. Many kinds of flower seeds, such as sweet alyssum, candy-tuft, calendula, larkspur, mignonette and portulaca and others can be sown now for an early start in spring. Currants, gooseberries, raspberry and blackberry plants and grape vines can be set out. If you have no asparagus bed this month is the time to plant one, or even next month if it is only done before heavy frosts set in. In preparing the bed dig it deep, eighteen inches is none too much, and work in a heavy amount of good manure, well rotted stable or cow dung. To set the plants take out a trench about a foot wide and six inches deep, so that the crowns will be at least three inches below the surface when covered; spread out the roots naturally in every direction and fill fine soil in and about them pressing it down firmly with the hand, and finally return all of the soil even with the surface. Set the plants a foot apart in the row and the rows at least eighteen inches apart. When planting is finished cover the whole with a good coat of manure for the winter.

HOW SEA-BIRDS QUENCH THEIR THIRST.—The question is often asked, "Where do sea-birds obtain fresh water to slake their thirst?" But we have never seen it satisfactorily answered until a few days ago. An old skipper, with whom we were conversing on the subject, said that he had seen these birds at sea, far from any land that could furnish them water, hovering around and under a storm cloud, clattering like ducks on a hot day at a pond, and drinking in the drops of rain as they fell. They would smell a rain squall a hundred miles or even further off, and scud for it with almost inconceivable swiftness. How long sea-birds can exist without water is only a matter of conjecture, but probably their powers of enduring thirst are increased by habit, and possibly they go without water for many days, if not for several weeks.

Health! Can you buy it? Yes, when it is possible with a single box of

Beecham's

Pills

(Tasteless)

to cure Indigestion, Biliousness and Sick-headache.

25 cents a box.

WORTH A GUINEA A BOX.

Letter Box.

In this department we will be pleased to answer any questions relating to Flowers, Vegetables and Plants, or to publish the experiences of our readers. JAMES VICK.

Kerosene.

I tried the kerosene emulsion on some of my plants last year, but it destroyed most of the leaves. So this year I tried raw kerosene, or crude oil, instead and it destroyed more of the insects and proved harmless to the leaves. F. L.

West Hoboken, N. J.

Asparagus.

Please tell me how to care for my asparagus. I have a bed three years old and I cut some last spring, but I do not know whether to cut the tops down this fall. The old stalks seem in the way, but I did not like to cut them off, unless it was right to do so.

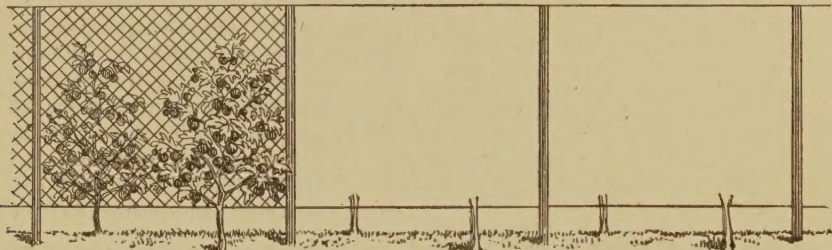
Hewletton, N. Y.

Miss L. M. S.

When the foliage turns yellow the tops can be cut away.

Wire Netting for Trellis.

In the Magazine of July last, page 135, article on "Sweet Peas," mention is made of training the plants on wire trellis. I will say that I have used this plan for the last ten years and find it the very best one. I also use it with equal success for my tomatoes; from last year's trial, and so far this year, will say I consider it of great value for training tomatoes. The



TOMATOES TRAINED ON WIRE TRELLIS.

wire offers little or no obstruction to the air and sun which reach the plants freely. I found last season the crop was much better than with the use of wood trellis. My plan is to set posts 2x4 inches, 5 feet apart to support the wire netting, and set the tomato plants 5 feet apart on each side of the trellis, but alternating the plants on either side, so that each one occupies two and a half feet lengthwise of the trellis, as shown in the engraving. The wire netting is four feet wide and its lower edge is placed six inches above the surface of the ground. H. N. B.

Clinton, Mass.

Chinese Lily—Bermuda Lily.

Will the Chinese sacred lily bloom the second season, if so, what treatment is required after blooming? Will the Bermuda or Easter lily bloom in the house the second season? Is it hardy? F. G. S.

Chinese lily is worthless to bloom the second time in water. Throw it away after blooming.

Bermuda lily is hardy. It will bloom a second time in the house, but it is not desirable. Use a new strong bulb every time

Tuberose.

I would like instructions in regard to the care of tuberose bulbs before and after blooming.

Omaha, Neb.

Mrs. E. T. D.

The general care of tuberose bulbs will be found in an answer to another correspondent in this department. All that it is necessary to add is, that the bulbs should be started in the house, in pots, and be turned out into the open ground on the arrival of settled warm weather.

Clematis in Winter.

I wish to learn what treatment a clematis requires for winter, and how the plant can be made bushy, or whether each year's blossoms come on the growth of preceding year only. Can you refer me to any article in one of your Magazines, if not, please answer.

Victor, Ia.

M. A. P.

Most species of clematis make sufficient growth without any attention to make them

"bushy." Nearly all of them are climbing plants. The bloom is produced on the shoots of the present year's growth. In a climate where the wood kills back in winter the vines should be laid down on the ground and be given a covering of leaves.

Vick's Caprice.

As some complaints have been made of Vick's Caprice rose I take up the pen in defense. Grandma V. got the Caprice two years ago. The first summer it blossomed but little. The second summer it bloomed through June and July. This summer it bloomed freely through June and July and part of August. It had very large perfect flowers, some of the roses being three and one-half inches in diameter. And now, September 3, it still is bearing a few flowers. No rose we have had has afforded more pleasure than this one. Grandma has sent orders to Vick almost every year for twenty-eight years, and has never been so well satisfied with any other seedsman. She thinks entire dependence may be placed upon what is said about the plants. M. D. H.

Fithian, Ill.

Diseased Geranium.

I have inclosed a geranium leaf that has begun to turn, the bottom leaf will begin, and then the next, till all the leaves are dead. I have seen in the Magazine about bacteria. I would like to ask if there has been any remedy found for bacteria?

Essex, Vt.

Mrs. R. S. N.

Undoubtedly many of the diseases of both

I did the first. I have a quantity of them this year, but not a blossom. Can you tell me the trouble? How can I tell which are the flowering bulbs?

Dillin, N. Y.

Mrs. E. D.

Tuberose bulbs bloom but once. With those planted out the year after blooming, as mentioned, the growth took place on the young bulbs attached to the old ones; these had been produced the year before. The young bulbs or tubers made on the blooming specimens should be taken off the following spring and be planted out in rows to get a season's growth before being large enough to bloom. Often the bulbs require to be kept over and cultivated for two seasons. In the meantime the winter treatment of the young tubers must be carefully attended to. The little flower spike starts in the bulb as the latter forms and increases in size with the growth of the bulb. This flower spike is very tender and will bear but little cold. It is necessary to keep the bulbs dry and in a temperature during winter of 60° to 75°. A moist air and low temperature are fatal to the flower spike; it decays within the bulb. A tuberose bulb should be at least an inch in diameter to have strength to bloom. Many of the little offsets will attain this size the first year of planting, but some of them require a second season's growth; much depends on the locality and mode of cultivation.

Good Cooking

is essential to

Good Digestion—

in pastry you cannot have either without a good shortening. Lard has always had very objectionable features, causing indigestion and many other dietetic troubles. Science has come to the assistance of the cook, and of weak stomachs, with the new shortening,

Cottolene

It is composed of the choicest beef suet and highly refined vegetable oil, in many respects as good as the finest imported olive oil. Physicians endorse it, cooking experts recommend it, and thousands are now using it in preference to any other shortening. Refuse all substitutes.

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Rhododendron.

I wish you would tell in your Magazine what kind of a plant is a rhododendron. I have one sent me by a friend but I never saw the blossom, and I can not find it in your catalogue. L. S. H.

Pontiac, N. Y.

Rhododendrons are shrubby low-growing plants producing a great amount of bloom; the flowers, from an inch to two inches in diameter, are somewhat irregular, funnel-shaped, and of a great variety of colors and markings.

Chinese Pinks—Sweet Peas.

We have a bed of dianthus pinks which have blossomed very luxuriantly last year and this year? Is there any use in saving the roots for another year?

Last spring we had a fine assortment of sweet peas that we did not plant. Will the seed be good, or as good as fresh seed to use next year?

We find your Magazine indispensable to amateur gardeners. M. E. H.

The Chinese pinks will not be worth saving for another year. They will probably die the coming winter.

If the old seeds of sweet peas are sound they will germinate, but more slowly and feebly than fresh seeds.

Tuberose Bulbs.

You so kindly answer all questions in your "Letter Box" that it leads me to give my experience with tuberose. Four or five years ago I purchased three tuberose bulbs and in the fall I had a beautiful cluster of blossoms from each of them, there being twenty-two blossoms on one. I have had just one cluster since that time. Have set out my bulbs each year as

Amaryllis Johnsoni.

I should like to know what is the matter with my *Amaryllis Johnsoni*. The leaves get mottled, a greenish yellow, and seem to be thinner in the light spots. The bloom stalk is spotted also. I can find no insect on them. I have had the most beautiful *Amaryllis* plants for years, and only lately have had any trouble with them.

MRS. J. H. M.

Springfield, Ind.

Scarlet Trumpet Honeysuckle.

Will you tell me the name of the honeysuckle inclosed and how I can get some roots or cuttings, or increase it, as there are no sprouts come from the bottom or roots?

Mrs. W. C. S.

Shelburne Falls, Mass.

The specimen received was the *Scarlet Trumpet Honeysuckle*, *Lonicera sempervirens*. It can be propagated by cuttings of the young wood in cold frame or greenhouse or it can be raised from seeds.

Trouble with Dahlias.

I would like some information regarding dahlias. Last year I set out what was said to be a nice variety of bulbs and got nice plants but hardly any blossoms. This year they seem to work the same way and I am unable to see the cause.

R. M. H.

Binghamton, N. Y.

Our inquirer leaves us quite in the dark about these plants by not stating under what conditions they exist. We can imagine that large clumps of dahlia tubers planted in rich and somewhat moist soil, and in a shady place especially, might make a large growth and produce but few flowers.

Hybrid Perpetual Roses.

Is it necessary to protect Hybrid Perpetual roses the first winter in this climate to prevent them from being winter-killed, and what is best method of doing so?

R. B. P.

Portland, Me.

It may not be absolutely necessary to protect the roses mentioned the first winter in Maine, but it is better to do so. It is probable that the stems can be bent over and the tips brought to the ground where they can be held by covering them with some soil; then the whole plant can be covered with dry leaves or, if easily to be obtained, some evergreen boughs. Another method of protection is to draw a mound of soil up about each stock some eighteen inches high. If the ends of the shoots above this height should be injured by frost they can be pruned off in the spring.

Blackberry—Grapes.

Will you please tell me in your next month's Magazine if blackberry bushes do as well set in the fall as in the spring, and if set in the fall, will they bear some fruit the next year?

Please tell me if you advise pruning grape vines back to the second or third bud of the present year's growth, and if you think it injurious to allow a grape vine to bear fruit the third year?

A. M. H.

Delhi, N. Y.

Blackberry plants may be set in the fall as well as in the spring. Perhaps a little more care may be necessary, such as drawing the soil up about the plants to protect them from the heavy frosts. Fruit should not be expected the following year.

A grape vine which is growing well should produce a small amount of fruit the third year. There are different modes of pruning vines and these cannot be described in a small space. However, all modes are but the practical expression of one principle which briefly stated is that the fruit is borne on young shoots which spring from the growth of the previous year. All pruning, therefore, must be with a view of maintaining a sufficient supply of new wood, or that of the last year's growth, and of cutting away all the surplus. Mr. Bailey's little book, recently issued, gives in detail descriptions of the most usual methods of pruning.

Tulips and Hyacinths.

I had a tulip bed of great variety, but without the solid red color. I secured some red bulbs and planted with the others, several years since. Three years ago they began to be double. I lifted them all in August, planting again the last of October in a bed enriched with well rotted barnyard manure. More were double the next season and this season there was scarcely one single red, and the number of blossoms on the entire bed is greatly diminished while the variety and brilliancy of the whole bed has decreased, all save the double red, which appeared in all their glory. There was a rank growth of broad green leaves, which had no flowers. When I reset the bed I selected the largest bulbs. Perhaps I ought to say that we sometimes scatter coal ashes over the garden in the fall and winter. Now please tell me what to do with my bulbs?

My hyacinths, too, seem to be diminishing. They have been in the same place several years. How deep should the planting be?

S. Y. K.

DeWitt Center, N. Y.

The statement above in regard to the tulips is quite interesting. It would be well to make a trial of planting some of these tulip bulbs in a piece of very poor soil and see if they would produce single flowers.

Hyacinths rapidly degenerate after the first season's bloom; this is always the case.

Burgundy Rose.

An inquiry regarding this rose appears in the July number of *Vick's Magazine*. Fifty years ago the writer, as a child, resided in Rochester, and at that time scarcely a dooryard but could boast of a *Burgundy* rose. The plant was bushy and very compact, its height was about two feet, possibly a little more; a profuse bloomer, and from the small size of the flowers was sometimes called the "Button rose;" color red, small petals and very double. Are there no old fashioned gardens left in your beautiful city, or have they been sacrificed to the march of improvement and like the old inhabitants, the places that once knew them now know them no more? If you will send an enterprising reporter to investigate the matter I am sure you will somewhere find a scion of the hardy stock. In looking back at that early period it does not seem as if flowers were "cultivated," they simply "grew," and so abundantly that with the various fruits they were regarded as sunlight and air, as every one's heritage. The great army of enemies to plant life had not yet put in an appearance, and one could sit under his vine and fig tree without creeping things to molest or make afraid. Probably the virgin soil kept them in abeyance. Perhaps time has thrown a softened halo around those early days, but the writer has often longed for peaches with the peculiar delicacy of flavor that was always found in the fruit but appears to be utterly lacking in modern varieties. Possibly that same virgin soil contained elements that have been lost during these

years of cultivation. The wild flowers of that period kept pace in beauty and variety with their cultivated sisters in the garden. A knoll called the Pinnacle, not far from your beautiful Mt. Hope cemetery, was the favorite resort for youthful botanists, and from the early spring until late autumn every flower of the season was found there, notably the *Lady Slipper* in great abundance and variety. Perhaps this spot too is transformed into building or other purposes. I will not weary you with further reminiscences but trust that the search for the little "button rose" will be successful.

C. L. R.

Fertilizer—Bulbs.

What kind of salt is used as a fertilizer?

Do crinums grow through the year? How should they be treated after flowering? If a bulb started late does not bloom in the summer what should be done with it if still growing (in a pot) when frost comes?

If pots of plants are sunk in ground for awhile and then lifted, is there not injury to the plants from cutting off roots that have run through into the ground?

Should lilies grown in pots be repotted every fall if fertilized while growing? And in repotting, must ball of roots be kept intact, necessitating the use of a larger pot each year? My lilies (*speciosums*) have grown thriftily and given me nearly one hundred blooms from six bulbs this first year, when I had only bulbs to start with. They were potted in the fall and kept in the cellar through the winter. Will they do better next if I retain all, or a part, of this year's roots? I have them now in nine and ten-inch pots and cannot well manage them much larger.

Rockville, Ct.

A. M. W.

The cheapest salt that can be procured will be most economical to use as a fertilizer.

Most species of crinums are what are called evergreen, that is they are never wholly dormant. After blooming the plants should have a less supply of water, and only a moderate supply be given during the winter season. A plant which is still growing when frost comes will soon be checked by the decrease of temperature and water.

Plants in pots standing on or in the ground should be examined occasionally and any roots running into the ground can be rubbed off; in this way they will receive no great check.

There is a difference among good cultivators in the treatment of the lily bulbs after forcing. Some think they should be planted out in the open ground for two years at least after blooming once in pots. Others keep them along two and even three years by removing some of the upper soil and placing on other that is fresh, and a covering of old cow manure on top of all, and without repotting. The surest way of getting fine flowers is, no doubt, to use new strong bulbs for potting each autumn, planting out the bulbs the following spring.

RAMEY'S MEDICATOR CURES CATARRH

CLEARs THE HEAD.
Cures Offensive Breath



AGENTS WANTED

LARGE PROFITS FOR LADIES OR GENTLEMEN. NO EXPERIENCE REQUIRED.

ASK YOUR DRUGGIST FOR RAMEY'S MEDICATOR. TAKE NO OTHER.

From Gov. Chase.

Executive Department,
INDIANAPOLIS, IND., Dec. 22, 1892.

Ramey Mediator Co.:

Gentlemen—I have used your Mediator with entire satisfaction for colds and slight catarrhal trouble. When used according to directions its effect is immediate and a cure seems certain. I shall not travel without it.

Very respectfully yours,

IRA J. CHASE.

NEW BRUNSWICK, N. J., Oct. 1, 1892.

I am pleased with the results obtained from the use of the Mediator, and have recommended it to others.

C. W. CROUCH, 31 Robinson St.

A Physician of 26 Years' Practice says:

AURORA, ILL., Dec. 31, 1891.

I have used your Mediator in my practice, and I know of no instrument so good for the introduction of Inhalant Medicines to the nose, throat and lungs. By your instrument the patient can send the medicine to the lungs, throat and all parts of the head. It is very useful in the treatment of Catarrh, La Grippe and kindred troubles.

T. M. TRIPLETT, M. D.

Catarrh
Deafness,
Headache, Neuralgia, Coughs, Colds,
Bronchitis, Asthma, Hay Fever, La-
Grippe, Etc., or Money Refunded. Price complete with
four months' treatment by mail \$2. The medicine is put on
a sponge in enlarged part of medicator. Insert
twin tubes in nostrils, single tube in mouth,
then blow; thus your lungs force highly medi-
cated air into all parts of the head and throat.
Send for terms, Testimonials, and further
particulars.

RAMEY MEDICATOR CO. 85 Dearborn St., CHICAGO, ILL.
DEAFNESS CURED.

L. W. Nichols, Jeweler, says:

RICHMOND, ILL.

A few weeks ago I bought one of your Medicators and Catarrh Cure for my wife, who was very deaf from Catarrh. The use of it has been miraculous. Her hearing is perfectly restored.

What a Prominent Clergyman Says.

CHICAGO, Jan. 14, 1892.

I have used Ramey's Mediator and Compound Inhalant for Hay Fever and found relief. I should think such a remedy would be valuable for colds and catarrh.

REV. H. W. THOMAS, Peoples' Church.

NERVOUS AND SICK HEADACHE.

Mrs. J. W. Hale,

Of 284 Spring St., Aurora, says:—I can highly recommend your Catarrh Cure and Mediator for nervous and sick headache and throat trouble. I would not be without one for five times what they cost.



ROCHESTER, N. Y., OCTOBER, 1893.

Enterain in the Post Office at Rochester as "second-class" matter.

VICK'S MONTHLY MAGAZINE is published at the following rates, either for old or new subscribers. These rates include postage:

One copy one year, in advance, Fifty Cents.

One copy twenty-seven months (2½ years), full payment in advance, One Dollar.

A Club of Five or more copies, sent at one time, at 40 cents each, without premiums. Neighbors can join in this plan.

FREE COPIES.—One free copy additional will be allowed to each club of ten (in addition to all other premiums and offers), if spoken of at the time the club is sent.

All contributions and subscriptions should be sent to Vick Publishing Co., at Rochester, N. Y.

ADVERTISING RATES.

\$1.25 per agate line per month; \$1.18 for 3 months, or 200 lines; \$1.12 for 6 months, or 400 lines; \$1.06 for 9 months, or 600 lines; \$1.00 for 1 year, or 1000 lines. One line extra charged for less than five.

All communications in regard to advertising to Vick Publishing Co., New York office, 38 Times Building, H. P. Hubbard, Manager.

Average monthly circulation **200,000.**

"EDITORIAL DON'TS."

DON'T forget that for every dollar spent in plants, seeds and bulbs, gracious nature returns a ten-fold blessing.

DON'T fail to keep up your subscription to Vick's Magazine. It comes twelve times a year, freighted with just the good things you ought to know.

DON'T forget to inculcate in the minds of your children and of those with whom you come in contact, a love for flowers. It will have a softening and refining influence that will last always.

DON'T fail to lay in a supply of potting soil for winter use. You will be sure to need it. With it at hand plants requiring repotting can be given attention at the time it is needed and when it will do the most good. Without it they would often suffer injury from which it would take a long time to recover.

DON'T keep hot fires going in October and November in rooms where plants are. If you do you will force them into rapid and unhealthy growth. Open the window every pleasant day and give them all the fresh air they want. Accustom them to the change from out to indoors as gradually as possible. Acclimate them, so to speak.

"DON'T forget to mulch next season," writes Mr. Rexford. "I want to make special mention of the benefits resulting to dahlias from mulching. My neighbors did not mulch their plants, and most of them had not one flower during the season because of the dry weather. My plants were mulched by grass clippings from the lawn and I had a fair showing of medium sized flowers."

DON'T forget to clean up the garden before winter sets in. Neatness should prevail here at all times. Never allow dead stalks and dilapidated trellises and other supports for plants to remain sticking up through the snow. Have a "clearing up spell" before cold weather sets in. Cut off the old stalks and burn them, and store away stakes and trellises for another's sea-

son's use if worth it. If not, burn them with the other refuse.

DON'T let winter catch you with your tender or half hardy plants unprotected. Take a bright and pleasant day for it and go over the garden, doing the work that is necessary in a leisurely and careful manner. Too often we wait until winter comes and then, *if we do anything*, we do it in such slipshod fashion that it might as well not be done at all. It pays to do all kinds of garden work well, and one of the most necessary things to do is to provide some sort of protection for most plants.

DON'T put away your dahlia tubers in the cellar without allowing them to go through a sort of ripening process. Expose the roots to the sun and let some of the superfluous moisture evaporate. If the cellar is a cool, damp one, better tie the roots together and hang from the joists overhead. Half the yearly loss of dahlia roots in the cellar comes from storing them in too "green" a condition. Dahlias generally winter well, after being properly dried off, in any cellar that keeps potatoes satisfactorily.

DON'T cover your pansies with litter. It is too heavy for them. Leaves are better. These settle in among the plants without crushing them. A few evergreen boughs are good. Pansies insist on a free circulation of air. They won't stand smothering under a deep covering such as seems to exactly suit many other plants. The chief benefit derived from branches of evergreens is that they prevent the snow from packing down firmly about the plants, thus cutting off, to some degree, the supply of air they need.

DON'T forget that while the ordinary petunia is not an aristocratic plant, it is what is vastly better, a satisfactory one for winter use. It will bloom, and bloom, and keep on blooming. After the flowers get small, and the branches look as if there was "nothing to them," cut the plant back nearly to the pot, give a pinch of some good fertilizer to the soil, and in a short time you will see new shoots appearing from the base of the plant, and these will produce fine flowers all the rest of the season. Such a plant is worth a score of plants that have to be coaxed and coddled.

DON'T water too much, plants need a resting spell. From now on to the holidays we will be pretty sure to have a great deal of cloudy weather. Evaporation from the soil of pot plants will take place slowly unless the rooms are very warm, and the plants will, for the most part, be at a standstill, therefore not in a condition to make use of a great deal of water. Therefore be careful to not over-water. If you do this your plants may be injured by sour soil. Let the surface of the soil take on a dry look before giving more water. Trite advice, this, but it has to be repeated as regularly as the year rolls around.

DON'T forget to fumigate for the green fly. Nothing else is so effective. If you can afford it by all means get one of the sheet-iron fumigators sold by most dealers in plants. These have a place at the bottom for fire, with a slide by which the draft is regulated. Above the fire chamber is a place for tobacco leaves and stems. The smoke comes out through a perforated cover. With this utensil the labor of fumigation is greatly simplified, it can be done more effectively, and there is no danger of fire. If this cannot be obtained a barrel is a good substitute. Always dampen leaves and stems of

tobacco before putting them on the coals, this makes them give off a denser smoke. The Stott Implement Co.'s "Kill-em-Right" is an excellent thing.

Ladies' Lace Pins Free.

We have some new style Gold-plate Bangle Pins coming in very unique patterns, comprising the Souvenir Spoon, Key, and various new styles. We want everyone to get our new Catalogue and Premium List of 500 new articles in Jewelry and Household goods, so if you address Morse & Co., Box 141, Augusta, Maine, and enclose 4c. for mailing, we will send one of these real gold-plated pins free postpaid, and also include a specimen copy of COMFORT, the only Magazine that has ever attained a circulation of over Twelve Hundred Thousand copies each issue.

RENEWALS.

The time of year has begun when many subscriptions to VICK'S MAGAZINE expire. Don't fail to renew promptly, as the small cost will be the most economical way you can spend the money if you want to be a successful flower and vegetable grower the year round.

"The advertisement of the meritorious Ramey Medicator appears again this month."



TO NON-SUBSCRIBERS.

If perchance a copy of this issue is sent to a former subscriber who has lapsed, or one who never knew it before, subscribe for it, and do it at once. Its monthly hints and talks are worth ten times its cost.



HAIR HEALTH warranted to renew youthful color to Gray Hair. Most satisfactory Hair grower, 50c. London Supply Co. 453 B'way, New York, will send Hair Book & box Hays' Kill Corns, Best Corn Cure, both FREE



"I've gone and made dollie's dress black with Diamond Dye Fast Black and it won't wash out."

Anything Dyed with Diamond Dyes Stays Dyed.

Diamond Dyes are made specially for home use, and will dye cotton, silk or wool in colors that will not fade or wash out.

Their Fast Blacks (for wool, cotton, or silk and feathers) are guaranteed the strongest, fastest, and handsomest Dyes known.

Direction book and 40 samples of colored cloth sent free. Wells, Richardson & Co., Burlington, Vt.

A NEW YORK MIRACLE.

A Remarkable Affidavit Made by a Well-known Business Man.

Afflicted with Locomotor Ataxia for Fifteen Years—Did not Walk a Step for Five Years—Was Given Up by the Leading Physicians of New York City and Discharged from the Manhattan Hospital as Incurable.

(From the New York Tribune.)

For some time there has been an increasing number of stories published in the newspapers of New York City, telling of marvelous cures of various diseases that have been made by different medicines and treatments. It has long been the intention of the *Tribune* to investigate one of the most interesting cases that could be found and give the truth to the world as a matter of news. Happening on the case of Geo. L'Hommedieu, the other day an investigation was made with the following very happy result:

When the reporter called on Mr. L'Hommedieu at the residence of his cousin, Mr. Edward Houghtaling, 271 W. 134th St., he said: "I am 51 years of age and was born in Hudson, N. Y. I served my time in the army, being corporal of Company A, 21st N. J. Volunteers. It has been about fifteen years since I noticed the first symptoms of my disease. I consulted Dr. Allen of Yorkville, and also Dr. Pratt, since deceased. "Dr. Pratt exhausted his powers in my behalf and finally told me that he could do nothing more for me.

"Finally I was advised by Dr. Gill to go to the well-known scientist, Dr. Hamilton. He gave me a most thorough examination and did me no good. I felt I was growing weaker every day, and went to the Manhattan Hospital, at 41st St. and Park Ave., and was under treatment by Dr. Seguin. He treated me for about three months, and then told me that I had locomotor ataxia and was beyond the aid of medical science. I was now a complete physical wreck; all power, feeling and color had left my legs, and it was impossible for me to feel the most severe pinch or even the thrust of a needle.

"If my skin was scratched there would be no flow of blood whatever, and it would take it fully six weeks to heal up. In the night I would have to feel around to find my legs. My pains were excruciating and at times almost unbearable. I would take large doses of morphine to deaden the pains. About five years ago Dr. Lewis A. Sayre of 285 5th Ave., made a trial of the French method of stretching the spine. Although I received no benefit from this treatment I shall always feel grateful to Dr. Sayre for his great interest and kindness.

"So severe had my case become by this time that I could not walk without assistance, and was almost ready to give up life.

"I began the use of Pink Pills for Pale People in September last. I took them rather irregularly at first with the cold water treatment. In a very short time I was convinced that I was getting better and I began the use of the pills in earnest, taking about one box every five days.

"The first sign of improvement was in November 1892, when I had a rush of blood to the head and feet causing a stinging and prickling sensation. February 22d, 1893, was the first time in five years I had ever seen any sign of blood in my feet. From this time on I began to improve. My strength and appetite have gradually returned; I now have perfect control of my bowels, and the pains have gradually left me. I can sit and write by the hour and walk up stairs by balancing myself with my hands. Without doubt I am a new man from the ground up, and I have every reason to believe that I will be hale and hearty in less than 6 months. I have taken about 12 boxes of pills."

Sworn to before me this Eleventh day of

March, 1893.

H. E. MELVILLE,
Commissioner of Deeds,
New York City.

[SEAL.]
The reporter next called on Mr. Robert W. Smith, a member of the firm of Marchal & Smith, who said:

"I have known Mr. Geo. L'Hommedieu for twenty years. He became connected with our firm as secretary in 1879, and attended strictly to his office duties until 1881, when he was stricken down with his trouble. As the disease advanced he was obliged to succumb and reluctantly gave up his office work. I know that he tried various physicians and their treatments without the least success, and, as he states, he was finally discharged from the Manhattan Hospital, and told that he was in the last stages of locomotor ataxia and was beyond the hope of human aid. About six months ago, or so, he was advised to try Dr. Williams' Pink Pills for Pale People, with the cold water treatment. The last time I saw Mr. L'Hommedieu he had gained the use of his limbs to such an extent that he could walk up stairs with the help of his wife, and is now doing much important work for us at his home. ROBT. W. SMITH."

Sworn to and subscribed before me this Eleventh day of March, 1893.

[SEAL.] W. H. WOODHULL,
Notary Public, New York County.

An analysis of Dr. Williams' Pink Pills show that they contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. They are an unfailing specific for such diseases as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after effect of la grippe, palpitation of the heart, pale and sallow complexions, and all forms of weakness either in male or female. Pink Pills are sold by all dealers, or will be sent post paid on receipt of price, (50 cents a box—they are never sold in bulk or by the 100) by addressing Dr. Williams' Medicine Co., Schenectady, N. Y., or Brockville, Ontario.

CENTROSEMA.

UNDER the name of *Centrosema grandiflora* seeds were sent out a year ago last spring by a party who professed that it was something entirely new to the country. It being inquired about and asked for by the customers of James Vick's Sons, that firm procured a supply of seeds from the introducer and offered them in the last issue of the *Floral Guide*. How purchasers have succeeded with the seeds and plants is not known, for neither complaints nor reports of it have been received. It was a question at the time what this plant really was, as no such species as *grandiflora* is mentioned by any botanical author. A careful examination last spring of the claims in regard to the plant, the description, and all the circumstances attending its introduction led the writer to the conclusion that *Centrosema grandiflora* was a misnomer, or rather that the name had been falsified, and that the plant was really *C. Virginiana*. And so sure was he of this conclusion that an order was given for a quantity of seeds to be raised of *C. Virginiana*, as that of the same plant. At the same time the qualities and characteristics of the plant were duly considered and thought to entitle it to the attention of the amateur cultivator. One of the principal points in this investigation was whether the plant could be raised from seed at the North with a fair prospect of blooming the first summer, and the evidences were in favor of such a result.

A correspondent in a late number of *Gardening* complains that he procured seed of *C. grandiflora* and planted it the first week in May and that at the time of his writing, August 8, the plants were in height "about six or eight in-

ches, and with no sign of flowering." The editor informs him, and the public as well, in the following language: "You have not got *Centrosema grandiflora* at all, and we question if there is a living plant of it in the country. What you have got is probably *C. Virginiana*; at least it is that pure and simple what we have got and raised from seeds bought in New York, and also in Europe, and too, from seed that was submitted to us to test." We regard this statement as effectually settling the identity of the plant, when all the circumstances of the case are taken into account. Now as to the blooming of the plant the editor makes the following encouraging statement: "The plants we now have were raised in the greenhouse last spring and put outside in May, and while they are only two or three feet vines, and slender, they have been blooming a little since the middle of July." This description is that of plants which are of the usual size and strength when fully grown, and the bloom has probably continued into the present month, September. The large purple flowers are beautiful, and if the plants are started early there is no doubt but they will prove an attractive novelty. As they are also perennial they can be preserved for years with suitable care.

ANIMAL SPEECH.—My horse has a low whinny which means "water," and a higher-keyed, more emphatic neigh means food. When I hear these sounds I know as definitely what she means as if she spoke in English. This morning, passing along the street, I heard that same low whinny and, looking up, saw a strange horse regarding me with a pleading look. I knew he was suffering from thirst, and no language could make it plainer. The language of the lower animals is not all articulate. It is largely a sign language. The horse does a deal of talking by motions of the head and by his wonderfully expressive looks. He also, upon occasion, talks with the other extremity. A peculiar switch of the tail and a gesture, as if threatening to kick, are equine forms of speech. The ducky was not far wrong who said of the kicking mule, "It's just his way of talking."—Charles B. Palmer in *Science*.

THE Reliable Incubator and Brooder Co., of Quincy, Ill., have a very fine exhibit in one of the live stock buildings at the World's Fair, and for the last few days their space has been crowded with curious and interested people. The first hatch from their machine on exhibition there has proven a wonderful success. Two hundred eggs were placed in their machine of that capacity, and from it came 186 chicks. This is more than has been hatched by all the other incubators put together, and the Reliable people are rejoicing in their great victory. If they do not receive first honors, it will not be because of a lack of merit in hatching qualities. Their incubator and brooder combined is the admiration of all poultry men. Not only is their machine first-class, but they are justly entitled to the name they bear—reliable and responsible, and worthy of confidence and patronage.

THE world uses every year 6,400,000 tons of sugar. Of this amount 3,800,000 tons are made from beets and 2,600,000 from cane, of which the United States consumes 2,000,000 tons, or about 70 pounds for each person.

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is a MONTHLY JOURNAL for the home, read by everybody, because it contains matter that interests everybody. Its stories of adventure are exciting, but not exaggerated. Its popular science articles are not too popular to be scientific, nor too scientific to be popular. Its illustrations are striking. Its contents so varied that each member of the family wants to see it first.

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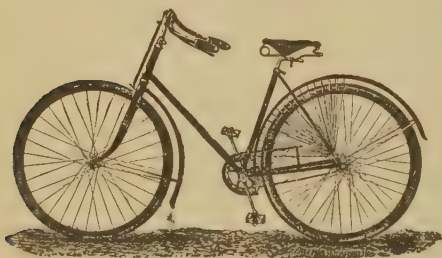
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The Highest Grade
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In the manufacture of the Phoenix we use the best material obtainable, which, combined with the superior mechanical construction, makes the Phoenix the lightest and most durable wheel in the market.

Send for catalogue.

STOVER BICYCLE MANUFACTURING CO.,
FREEPORT, ILLS.

\$20,000,000 A YEAR

Are spent in the U. S. for writing paper. It's too much. We want one twentieth of this business, but we will do it for \$500,000.

We can sell good writing paper for what you pay for bad. Examine our samples—twenty cents they're worth, send us ten for them, and be convinced.

THE BURROUGHS STATIONERY CO.
21 & 23 GENESEE ST., AUBURN, N. Y.

THIS, THAT AND THE OTHER, FOR WINTER BLOOMERS.

BY EBEN E. REXFORD.

Next to Lillium Harrisii the best plant for forcing is the Roman Hyacinth. Be sure to pot at least a dozen bulbs for winter flowering.

One of the best begonias for ordinary room culture is Metallica. It is a robust grower and has foliage so much like the Rex class that it is a good substitute for that interesting branch of the begonia family. Try it, all you lovers of the begonia who fail to grow the Rex section satisfactorily.

One extra good winter-blooming fuchsia is Speciosa. Given a large pot, light fibrous soil of leaf mold and sand, good drainage and plenty of water at the roots and overhead, it will make rapid growth and flower abundantly from January to April without cessation. No other variety is superior in this respect.

One of the prettiest plants for a hanging basket is the sword fern, Nephrolepis exaltata. Its fronds often reach a length of three feet, and as they are freely produced a charming effect is given as they arch over the pot. Give a light porous soil, largely made up of fibrous matter, and be sure to water freely.

Everybody liking yellow flowers for winter and early spring planting ought to grow streptolosen. It is as free a bloomer as a verben. Flowers in loose clusters, yellow on opening, turning later to a reddish orange. Habit of growth slender, requiring some support; very pretty, and a decidedly cheerful looking plant because of its color.

A very excellent basket plant is othonna. It has bright yellow flowers that remind one of miniature dandelions. They half cover well grown plants, and give them an exceedingly pleasing appearance. This plant likes a sunny window, and because of the succulent character of its leaves it does not require as much moisture at its roots as most plants do. Of the easiest culture.

The best all-around herbaceous plant we have is the perennial phlox. It is perfectly hardy without any protection, becomes a large and symmetrical clump the second year from planting, and never fails to produce enormous panicles of lasting flowers, whose colors range from milk-white to crimson and violet. For the border we have nothing superior to it, and it is easy to grow—it grows itself.

One of the most satisfactory winter-blooming plants I know of is Achania Malvaviscus. It has very bright pleasing green foliage and vivid scarlet flowers. It is not a free bloomer, but a constant one. It is of the very easiest culture. Give it the same soil you give geraniums and water in same manner. It is of bushy habit, and can be trained as a tree or shrub. Cut it in well from time to time to make it compact.

A good bulb for forcing is Lilium Harrisii, because it gives such beautiful flowers and can be depended on for good results, which is something that cannot be said about all bulbs for forcing. But of course this lily will not do well without reasonable care—no plant will. But if you get good bulbs, plant them in a good compost, and do not keep them too warm, they will be almost certain to bloom. And what is more beautiful than one of these plants in bloom?

FITS.—All Fits stopped free by Dr. Kline's Great Nerve Restorer. No fits after the first day's use. Marvelous cures. Treatise and \$2.00 trial bottle free to fit cases. Send to Dr. Kline, 931 Arch St., Phila., Pa.

LADIES

The GREATEST Miracle of Modern Discoveries, HAIR-GONE. How to FOREVER remove Superfluous Hair. Send stamp for sealed instructions. RARE CHEMICAL CO., 180 W. 23d St., New York.

A Child's Love for a Doll.

HAS OFTEN BEEN COMMENTED ON.—READ ABOUT THE NEW STYLE DOLLS.



Modern invention is always making startling improvements, and the latest thing just brought out is for the young people who live away from the large cities. We have just secured a new kind of dolls that are absolutely indestructible, and we show you in this cut here how they look; they are about 18 inches tall, and made of elegant colored goods. In getting this doll up we have overcome the great trouble of weight, which has made such a cost in the past when shipping by mail or express. These dolls are so constructed that you fill them with cotton, hair, or sawdust, sewing them up after receiving; it takes but a few minutes to do this, and you save nearly one dollar, and get a pretty, substantial doll for almost nothing. They will last for years and be a joy forever to any miss who desires a handsome dollie as nice as her own sweet self.

To introduce these goods at once, and add another million to "Cox's" 87's "eleven hundred thousand circulation, we will send one doll absolutely free (all charges paid by us) to every three-months' trial subscriber enclosing 15 cents; two dolls, and two dolls 25 cents; 5 for 50 cents. Many make money selling these dolls. Send one dollar for twelve, and try it.

Address MORSE & CO., Box 229 Augusta, Maine.

When writing to advertisers, mention Vick's Magazine.



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POTATO ROT AND BORDEAUX MIXTURE.

WHEN, as within a short time past, it has been considered definitely settled that the proper and timely use of the Bordeaux mixture by applying it in a spray on the potato plants is a preventive of the rot, which is often so fatal to that crop, it is unpleasant to have this understanding of the subject rudely reversed or controverted. However, what we desire to know is the truth. A late issue of the *Experiment Station Record* gives an account, which is here reproduced, of experiments made through three seasons, in Germany, by G. Liebscher, to test the value of copper preparations for the preventive treatment of potato rot.

"On June 28, 1890, he sprayed a part of the crop with a 1½ per cent. solution of Bordeaux mixture, at the rate of 30 gallons per acre. Four weeks later he again sprayed the plats, using a 2 per cent. solution, at the rate of 50 gallons per acre. Notwithstanding this treatment, there was some disease on all the early sorts, while upon the late ones the disease did not appear, even when not sprayed. He considered the first spraying was made too late, and consequently the second was useless.

In 1891 three plats of about one-third acre each were planted with a variety supposed to be very susceptible to rot. The first plat was untreated, the second received a dusting with copper steatite, and the third was sprayed three times with a 1½ per cent. solution of Bordeaux mixture, at the rate of about 30 gallons per acre. Late in the season all three plats were attacked, and at the beginning of August all the potato vines were wilted. The treated vines remained green longer than the untreated ones, those receiving the copper steatite for about a day; those sprayed with Bordeaux mixture from three to fourteen days. The crop from all three plats was as follows: Untreated, 32 bushels per acre; copper steatite, 42.7 bushels, and Bordeaux mixture, 48.1 bushels. In some instances the disease was so bad that a yield scarcely greater than the amount of the seed was obtained. The author thinks that the cost of the treatment was justified by the increased yield.

In 1892 the experiment of the previous years was repeated on a plat of about 1¼ acres, divided into three parts. One was untreated, another was dusted three times with copper steatite, and the last sprayed three times with Bordeaux mixture, at about the same rate per acre as in the previous years. Fourteen varieties of potatoes were planted, and the season being a very dry one the disease was at no time severe. About the end of August the effect of the copper upon each of the 14 varieties was plainly seen. The injurious effect on the plants, the author claims, could be readily seen, and the yield was correspondingly reduced. The season was a favorable one and the harvest large. Taking the yield from the untreated plats as 100, the total crop from the plats treated with Bordeaux mixture and copper steatite was 80 and 69, respectively; or the loss caused by the use of Bordeaux mixture was 20 per cent., and by the copper steatite 31 per cent. Instead of the usual gain attributed to the use of copper compounds there was here a very serious loss.

The author thinks the use of copper compounds may be of value in a wet season when the potato-rot fungus is developing and spreading rapidly, but in a dry season their repeated application will positively injure the crop more than the fungus; in other words, he considers the use of the compounds during a dry season as injurious to the potato plant."

We cannot accept the conclusion of the author. It may be true, but it is wholly unscientific to accept the results of a single series of trials in a single year. If a number of series of trials, through several dry years, shall indicate similar results, the conclusion arrived at will be

warranted, but for the present it cannot be accepted, and potato growers should continue in the use of this preventive measure which has already proved itself of great efficiency.

TROPICAL ROOFS.

The natives of the interior of Ceylon finish walls and roofs with a paste of slaked lime, gluten and alum, which glazes and is so durable that specimens three centuries old are now to be seen.

On the Malabar coast the flat bamboo roofs are covered with a mixture of cow-dung, straw and clay. This is a poor conductor of heat, and not only withstands the heavy rains to a remarkable degree, but keeps the huts cool in hot weather.

In Sumatra the native women braid a coarse cloth of palm leaves for the edge and top of the roof. Many of the old Buddhist temples in India and Ceylon had roofs made out of cut stone blocks, hewed timber and split bamboo poles. Uneven planks cut from old and dead palm trees—seldom from living young trees—are much used in the Celebes and Philippines. Sharks' skins form the roofs of fishermen in the Andaman islands.

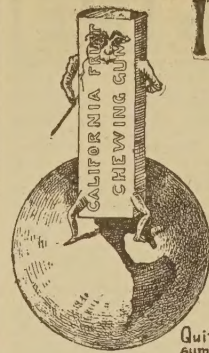
The Malays of Malacca, Sumatra and Java have a roofing of attaps, pieces of palm leaf wickerwork, about three feet by two in size and an inch thick, which are laid like shingles and are practically waterproof. The Arabs of the East Indies make a durable roof paint of slaked lime, blood and cement. Europeans sometimes use old sails—made proof against water, mold and insects by paraffin and corrosive sublimate—for temporary roofs.—*Scientific American.*

STUARTIAS.

Two species of Stuartias are natives of this country. *S. Virginica* is a shrub from eight to twelve feet in height bearing white flowers two or three inches in diameter. It grows in the low regions of Virginia and further south. *S. pentagyna* is a plant of a little stronger growth and with white flowers somewhat larger than the first named. It is a native of the mountainous regions south of Virginia and has been considered as hardy in cultivation at the North. These plants are closely related botanically to the camellia and tea plant. Mr. Andrew S. Fuller, the well known horticulturist, of Ridgewood, N. J., in a note to *Gardening* mentions the superior hardness of the Japan Stuartia, *S. pseudo-camellia*. He says:

"My experience with the Stuartias leads me to agree with Mr. Dawson in regard to the hardness of the Japan species, *S. pseudo-camellia*. My oldest specimen of *S. pentagyna* was planted twenty years ago, and has been cut down to the ground twice during the time, while the Japanese plant, although not quite as old, has never had a bud injured by cold. The latter is a much taller and more slender shrub, but it is decidedly the most showy when in bloom, because the foliage is less abundant and dense and the leaves smaller, hence the individual flowers are fully exposed to view. Furthermore the flowers of the Japanese species open wide and flat, like a single camellia, while those of our native species are more or less wrinkled with deeply jagged-edged petals.

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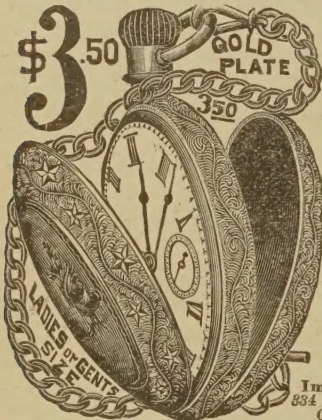
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FERNS FROM SPORES.

The first essential is to procure spores of good quality, and the surest method is to keep a few old plants for stock, from which the fronds should be gathered from time to time as they mature, and placed in paper bags, or else wrapped in clean paper and laid away in a dry place. After drying and cleaning the spores may be stored away in small vials, and thus kept secure until needed. In order to keep up a stock of ferns it is best to sow several times in the year, and in this manner keeping some store pots of seedlings on hand all the time, in readiness to be potted off whenever some space can be spared for the purpose.

Six-inch pans or pots are the best size in which to sow the spores, and only a moderate heat is required for their germination, while close attention is required in the matter of ventilation, to prevent the appearance of fungus among the young seedlings. It is more economical to prick out the young plants into other pans or boxes as soon as they are large enough to handle than to allow them to remain in the original seed pans until they are potted off, as in the latter case many of the seedlings will be spoiled by overcrowding, and a considerable percentage of the crop lost.

For the killing of worms and insects and the prevention of fungus it is a good plan to bake the soil before sowing the fern spores thereon, but this is not absolutely essential to success in the operation, it being more necessary to water and ventilate carefully, and to keep an even temperature of 60° to 65°.—**W. H. Taplin** in *American Florist*.

ONION AND CABBAGE PESTS.

Mr. E. O. Orpet, of Massachusetts, supplies a valuable note to *Gardening* in relation to the destruction of the onion maggot. Here are his statements:

"Onions were always a source of trouble to us owing to the onion maggot, and we seldom saved a tenth part of those that came up, but since using a tumbler full of kerosene to a water pail full of wood ashes, coal ashes or dry soil, and sprinkling this along the rows during the six weeks that the maggot gives most trouble, that is part of May and June, according to locality—we rarely lose an onion. The crop is better this season than ever before, though three years ago not an onion was left to store away for winter on this same piece of ground. Care must be taken to use a perfectly dry medium to hold the kerosene in suspension or the latter will perhaps be too potent."

He also makes this statement about destroying worms at the roots of cabbage and cauliflower:

"We use salt water to kill the worms at the roots of all the cabbage tribe; it is perfectly safe if used with care, though until brine was used we could not keep a cabbage or cauliflower."

The past season has been one of unusual drouth in many parts of the country. Wherever mulching has been practiced the result has been highly satisfactory. Plants not mulched dried up early in the season, while mulched plants grew and blossomed. Mulching is easier than watering and quite as beneficial.

Bulbs and Tuberous-Rooted Plants.

Such is the title of a volume of some three hundred pages, written by C. L. Allen, and published recently by the Orange Judd Company of New York. This appears to be a book which will be of much value to gardeners and amateur plant-growers. Mr. Allen is well fitted to write on such a subject, as he is one of the most extensive bulb-growers in the country, and has had long practical experience in the work. Evidently he has well performed the task which he set before himself and in clear language has given the peculiarities and special treatments required by the different kinds of plants considered. Only in its literary character is the work not all that is to be desired, but on this point, perhaps, it may be best not to be critical, as it is intended as a working manual for everyday use and consultation by those engaged in raising bulbous and tuberous plants. Mr. Allen's personal knowledge and experience in the cultivation of plants give character and authority to his directions, and we commend the book to those of our plant-growing friends who feel the need of the minute and careful instruction which it contains.

INTELLIGENCE OF THE HORSE.—Recently a New Jersey farmer, while passing along the street in New York, heard the well known "neigh" of his good old horse, which had been stolen from his barn last winter, six months having elapsed. The farmer turned, and there, sure enough, was the affectionate old animal, hitched to a butcher's wagon. The horse had recognized his master, and gave him the accustomed signal. The farmer recovered his property and the thief was arrested.



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UNDERSTANDING OUR DOMESTIC ANIMALS.—The dog can not only "look volumes," but can express whole sentences by wags of the tail more readily than can the waving flags of the signal corps. All that is necessary is to learn his code. We expect our domestic animals to learn our language, and punish them cruelly if they fail to both understand and obey our commands; yet, notwithstanding our higher intelligence, we fail to learn their language, by means of which we might better understand their wants and dispositions, and thus control them by kindness and sympathy, instead of by harsh and arbitrary treatment. I see horses passing along the street, which are saying by every look and motion that they are suffering acute torture from a too short check rein. Their drivers are often people who would be shocked if they could comprehend their own cruelty. But they do not understand horse language, and some of them do not seem to have horse sense.—**Charles B. Palmer** in *Science*.

IN LIFE'S TUNNEL.

Borne by a power resistless and unseen
We know not whither,
We look out through the gloom with troubled mien,
How came we hither?
Darkness before and after. Blank, dim walls
On either side,
Against which our dull vision beats and falls,
Met and defied.

Shrouded in mystery that leaves no room
To guess aright,
We rush, uncertain, to a certain doom—
When lo,— the light!

—Grace Denio Litchfield in September Century.

MAKING CACTUS BLOOM.

IN the vicinity of my childhood's home lived a woman whose plants and flowers were the admiration of the neighborhood. One plant in particular, a fine large cactus of the flat-leaved class, was a local wonder. Regularly each spring it donned its gorgeous livery of big, red blossoms, when we neighbors would call to see it and pour out our adjectives unstintingly over the beautiful thing. Visiting our friend once late in the summer I found the plant a forlorn looking object, indeed, with leaves wilted and half shriveled, it was apparently half dead.

"Oh, I'm drying it off," my friend explained in reply to my anxious inquiry. "That is the way I make it bloom."

"I've always heard they must be five years old before they will flower."

"It doesn't matter so much about the age as the treatment; they will bloom at almost any age if managed properly. About midsummer I begin gradually to withhold water. In the fall when it is quite dry I set it away in a dry place until February, when I bring it out, repot it and begin watering again, a little at first, increasing as it shows signs of life."

Circumstances have prevented my having a cactus of my own until now. I have two upon which I shall try the "drying off" process this season, and give this for the benefit of others who may wish to try to hasten their cactus bloom.

LILLIE SHELDON.

THE NEW POTATOES.

The new potatoes, Maggie Murphy and American Wonder, appear to give highly satisfactory results to those who have tested them. Numerous letters of approval in regard to them have been received by James Vick's Sons, and we here give two as samples. The announcement of prizes will be made in the November number of this Magazine.

BEDFORD, N. Y., August 29, 1893.

JAMES VICK'S SONS:

Dear Sirs—Our prize potatoes are dug and will be sent in a day or two. Our gardener is much pleased with the result considering the long drought from which we have suffered. He has three pecks American Wonder and two pecks Maggie Murphy from the eyes of two potatoes each. Planted about May 20; dug August 28. One or two eyes to a hill, there were fifteen hills American Wonder, fourteen hills Maggie Murphy. One Maggie Murphy boiled today gave a fair help each to six people. It was dry, mealy and good in flavor, pronounced a delicious potato. This experiment was made on the grounds of St. Matthew's Rectory, Bedford, Westchester Co., N. Y. Gardener, A. P. Miller.

Yours sincerely,

MRS. LEA LUQUER.

EAST UNION, ME., September 18, 1893.

JAMES VICK'S SONS:

Messrs.—I this day ship to you by express the two dozen potatoes for the prizes, you will find thirteen of the Maggie Murphy and twelve of the American Wonder. I will give you a statement of how I planted them. I received from you four potatoes, one pound of each kind, and I cut them into seventeen

pieces and put one piece in a hill, and from the seventeen hills of Maggie Murphy I got ninety-three pounds of the handsomest potatoes that I ever raised. There were no small ones, the biggest part of them are too large for the table, they are about like the sample that I send. The American Wonder was not quite so large a yield but did very well, they grew somewhat prongy. I have made a specialty of planting potatoes for a few years and I never have seen anything that has come up to the Maggie Murphy. I think when they beat the Maggie Murphy they will have to use something besides the Great Eastern Phosphate.

MARCELLUS WENTWORTH.

THE NEW BRANCHING ASTER.

The following unsolicited letter to James Vick's Sons, in regard to this new introduction tells its own story. The new aster is a great acquisition and will as soon as known be in great demand.

GENEVA, N. Y., September 15, 1893.

JAMES VICK'S SONS:

Gentlemen—You may recollect that last spring I had formed a strong prejudice against your new late, tall, branching aster, and that it was with reluctance I finally consented to try it. My opinion, formed from your description of it, was that it would be too late for any practical use with the large majority of the people. After giving it a trial, I may say that my prejudice has been entirely removed and that I am now very enthusiastic in its favor, considering it one of the most valuable novelties that have been introduced of late years. I planted the seed about the middle of April in a cold frame at the same time that I planted the rest of my asters and other seeds. When large enough they were transplanted in the garden at the same time other asters were. The result is that when the other asters were in their prime the Tall Branching were just beginning to open their buds and now that the others are mostly faded away the Tall Branching is in full flower and in all its glory, and magnificent indeed is the sight. Where it has plenty of room it is about three feet high, well and evenly branched, full of large, pure white, splendid flowers and an abundance of buds that insures its continued blossoming until cut down by the frost, even if such an event does not take place until well into October. I cannot say too much in its praise.

Yours truly,

GEO. S. CONOVER.

THE COSMOPOLITAN.—Of all the popular magazines now published in the world the *Cosmopolitan* stands at the head in its illustrations. The September issue is largely devoted to the World's Fair—A World's Fair Number—and a fair number it is. The illustrations are so numerous and so perfect that this number will remain as one of the most valuable of records of the great exhibition. Many of the points of interest in the Fair are treated of in separate articles by such well known writers and personages as Walter Besant, Price Collier, George F. Kunz, Julian Hawthorne, Ex-President Harrison, Murat Halstead, J. Brisbane Walker and others. Not the least remarkable feature of this remarkable magazine is that it is sold at twelve and a half cents a number or \$1.50 a year.

THRIPS ON THE GRAPE VINE.—It is an observation this season among those who have used the Bordeaux mixture and ammoniacal copper solutions in vineyards that they drive off the thrips or largely prevent the insect from acting on the foliage. In some localities and some seasons the damage from this insect is so great that it is thought that the cost of spraying would be justified for the good it does in this respect alone.

AN OLD OLIVE TREE.—An olive tree measuring about twelve feet in diameter was recently destroyed near Nice, France, which had a recorded history of over five hundred years. It is believed that the olive tree has in some instances reached the age of a thousand years.

CINNAMON VINE—CORRECTION.

It was erroneously stated in our September number that the cinnamon vine was tender—the writer had in mind at the time another plant. *Dioscorea batatas*, the Chinese yam, popularly called cinnamon vine, the plant with the big tuberous root, will endure the winter in the ground, sprouting again in spring. This plant which is employed to some extent as an ornamental climber appears to be a favorite in some gardens for its clean foliage and rapid growth.

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THE POTATO BLIGHT.

IN the "Ninth Annual Report of the Agricultural Experiment Station of the University of Wisconsin" appears the following in regard to a mid-summer blight of potato tops:

"During the past few seasons considerable attention has been paid to an affection of the potato popularly known as 'blight' or 'rust,' that has attacked the foliage about midsummer. The disease first appears about the edges of the leaves or where the leaves have been punctured by the flea beetle and the affected parts assume almost immediately a brown, dead appearance and readily crumble to dust between the fingers. In severe cases the foliage is totally destroyed and the yield of tubers is largely cut off. Recent experiments have shown that the crop is sometimes damaged by this disease to the extent of more than one half. It is usually most destructive to late potatoes or to the later varieties of those planted early.

Not the dreaded Potato Rot.—This affection has but recently been studied and its precise nature is not well understood. How long it has prevailed in Wisconsin is not known but it probably is not of recent introduction. The disease has doubtless generally been mistaken for normal dying of the potato tops. The trouble should not be confused with the disease that causes the well known and dreaded potato rot, as no connection seems to exist between the two maladies.

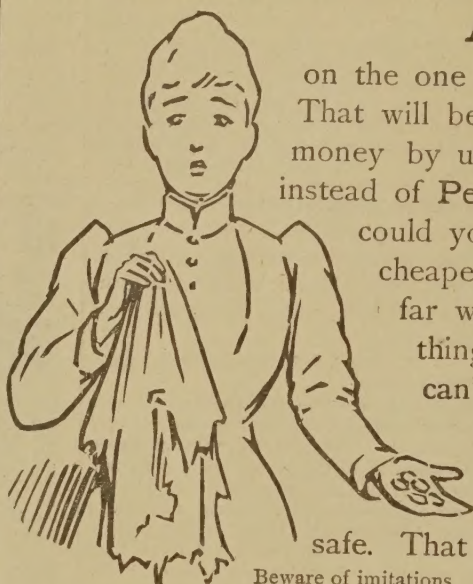
Remedy.—Experiments in several States including Wisconsin, during the past three seasons, have shown that the Bordeaux mixture is a preventive of this disease. The first spraying should be made about July 15th, and this should be followed by others two or three weeks apart until the latter part of August. Paris green may be added to the mixture for destroying the potato beetle if desired. The Bordeaux mixture itself largely prevents injury from the beetle."

COMMERCIAL LAW.

Dr. L. B. McKenna, of Quincy, Illinois, has written and recently published a work entitled "The Principles of Commercial Law." It is intended as a text book for business colleges and other institutions where commercial branches are taught, and as a reference book for business men and private learners.

The purpose in this work is to present those legal principles which lie at the foundation of the subject, as well as those common rules and forms in general and constant use in the ordinary transactions of everyday business life, in clear, plain everyday business language, that it may be understood by the average student or reader. It is a pleasure to say that in this undertaking the author has fully succeeded, and every subject is treated in the most lucid manner. It is a work which must come into very general use, and every business man and even every farmer will find it an advantage to have it at hand to consult. A very full index and an excellent glossary make the work very complete. The book is handsomely printed and substantially bound, and is sold at a very moderate price. It can be ordered from the Gem City Business College, Quincy, Illinois.

A LARGE celery farm has been started by a wealthy person on the reclaimed lands of Lake Apoka, Florida. Forty acres is now being planted in celery. Mr. Leinhart, the superintendent, has discovered the secret of successful celery culture in Florida, and this information he is making good use of.



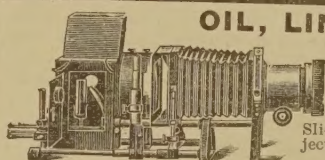
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